Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Identify and write word to symbol translations of expressions.

PASS Process Standard
II A, B

Quarter
I
No. Days
3

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

I. Number Sense/Algebraic Operations

A. Translate word phrases and sentences into **expressions** and vice versa.

NCTM Standard
Pgs. 360-364

Text Correlation	**Rating**	**Additional Resources**
1.1, 1.2, 1.3, 1.6	1	T49 & T50-Brian Enright-Algebraic Thinking; The Equation Behind an Old Trick Activity; Writing Algebraic Expressions Activity

Assessment

1. Which of the following represents the quantity "7 less than x"?

(a) $x-7$ (b) $7-x$ (c) $x+7$ (d) $\frac{7}{x}$ (e) $\frac{x}{7}$

2. The length of a rectangle is 10 feet more than triple its width. If x represents the width, in feet, of the rectangle, which of the following represents the area, in square feet, of the rectangle?

(a) $3x+10$ (b) $3x^2+10$ *(c) $3x^2+10x$ (d) $3x^2+30x$ (e) $9x^2+30x$

3. Sam and Chris are each employed as childcare providers. Sam works 40 hours a week while Chris works 48 hours a week. Which of the following expressions represents how many more hours Chris will work in w weeks than Sam?

(a) $(48-40)w$ (b) $(48+40)w$ (c) $48-40-w$ (d) $48w-40$ (e) $48-40w$

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Evaluate expressions using order of operations.

PASS Process Standard

Quarter
I
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...
I. Number Sense/Algebraic Operations
C. Simplify and evaluate **expressions** including:
1. linear (one and two variables)

NCTM Standard
Pgs. 290-294

Text Correlation	**Rating**	**Additional Resources**
1.4	1	Algebra War! Activity; Square Puzzle Activity; Order of Operations Card Game; Order of Operations Activity/Card Game

Assessment

1. What is the value of $\frac{ab+c}{c}$ when $a = 4,\ b = 0,$ and $c = 2$?

(a) 1 (b) 2 (c) 3 (d) 4 (e) 5

2. Evaluate the expression $3x^2 - 7x$ when $x = -3$.

3. Evaluate the expression $7x - 3x^2$ when $x = -2$.

4. What is the value of the expression $3x^2$ when $x = 4$?

(a) 9 (b) 14 (c) 24 (d) 48 (e) 144

5. Evaluate $3s^2 + 6r^3,$ when $s = 5$ and $r = 1$.

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective

*Substitute whole numbers for unknown quantities to evaluate expressions.

**Critical to success in next course.*

PASS Process Standard

Quarter
I
No. Days
2

○ **ITBS** ○ **CRT** ● **EXPLORE** ● **EOI** ● **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

I. Number Sense/Algebraic Operations

C. Simplify and evaluate **expressions** including:

1. linear (one and two variables)

NCTM Standard
Pgs. 290-294

Text Correlation	**Rating**	**Additional Resources**
1.2, 1.3	2	1.2 Extra Practice and Reteach Algebra Challenge Activity

Assessment

1. What is the value of $\frac{ab+c}{c}$ when a=4, b=0, and c=2?

*(a) 1 (b) 2 (c) 3 (d) 4 (e) 5

2. If $x = 3$, and $y = 2$, then the value of $x^2 - 3xy + y^2$ is:

(a) -23 (b) -13 (c) -5 (d) 23 (e) 31

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Find the value of a rational expression by substituting for unknown quantities.

PASS Process Standard

Quarter
I
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...
I. Number Sense/Algebraic Operations
C. Simplify and evaluate **expressions** including:
3. rational

NCTM Standard
Pgs. 290-294

Text Correlation	**Rating**	**Additional Resources**
1.2, 3.2 Review	2	

Assessment

1. Evaluate $1.4x + 7.4$ when $x = 3.2$.

2. Find the value of $\frac{x + y^2}{x^2 - 1}$ when $x = 2$ and $y = -3$.

Algebra I: Geometry and Measurement

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	E	M					

District Objective

*Compute the perimeter of simple composite geometric figures with unknown side lengths.

**Critical to success in next course.*

PASS Process Standard
I C
IV C

Quarter
I
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

III. Geometry/Measurement

A. Use the formulas from geometry (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.

NCTM Standard
Pgs. 320-323

Text Correlation	**Rating**	**Additional Resources**
3.2, 3.6	3	Formula Fold-A-Book Activity; Perimeter Worksheet

Assessment

1. The area of a parallelogram can be found by using the formula $A = bh$, where A is the area, b is the length of the base, and h is the height of the parallelogram. What is the area, in square inches, of ΔPQX below if the area of parallelogram $PQRS$ is 28 square inches? (Note: Lengths on the diagram are expressed in inches.)

(a) 21 (b) 17.5 (c) 14 (d) 13 (e) 12

2. If you found the perimeters, in feet, of all rectangles with an area of 48 square feet and where the sides are whole numbers of feet long, what would be the smallest perimeter you found?

(a) 14 (b) 28 (c) 32 (d) 38 (e) 48

3. How many feet long is the perimeter of the figure sketched below?

(a) 12 (b) 14 (c) 15
*(d) 16 (e) 18

Algebra I: Geometry and Measurement

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective

*Compute areas of rectangles and triangles when an additional step is required.

**Critical to success in next course.*

PASS Process Standard
I B, C

Quarter
I
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

III. Geometry/Measurement

A. Use the formulas from geometry (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.

NCTM Standard
Pgs. 320-323

Text Correlation	**Rating**	**Additional Resources**
2.6, 3.1	2	Reteach 3.1, Pg. 17; Area of Squares, Triangles, Rectangles Worksheet; Area and Perimeter Mixed Review Sheet

Assessment

1. Michael is a glass cutter. A local builder asks him to cut a 6 - foot - by - 8 - foot rectangular piece of glass to replace a picture window. Michael charges $3 per square foot of glass. How much will he charge the builder, before taxes, for the window glass?

(a) $16 (b) $42 (c) $48 (d) $84 (e) $144

2. A gizmo whose dimensions are $4\frac{1}{2}$ by $3\frac{1}{2}$ by $2\frac{1}{2}$ inches (length by width by height) needs a box that is $\frac{1}{2}$ inch bigger in each dimension. What is the volume of such a box, in cubic inches?

(a) 0.125 (b) 12 (c) 20 (d) 39.375 (e) 60

2. The out - of - bounds lines around a basketball court in Central Park need to be repainted. The court is a rectangle 90 feet long and 50 feet wide. What is its perimeter, in feet?

(a) 140 (b) 190 (c) 230 *(d) 280 (e) 4,500

Algebra I: Geometry and Measurement

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	E	M					

District Objective

*Compute areas and circumferences of circles after identifying necessary information.

**Critical to success in next course.*

PASS Process Standard
I B, C

Quarter
I
No. Days
2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

III. Geometry/Measurement

A. Use the formulas from geometry (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.

NCTM Standard
Pgs. 320-323

Text Correlation	**Rating**	**Additional Resources**
1.6	3	Perimeter/Circumference Activity; Circles-Circumference and Area Worksheet

Assessment

1. How many feet long is the radius of a circle whose circumference is 16π feet?

(a) 2

(b) $2\sqrt{2}$

(c) 4

(d) 8

(e) 16

2. Write an expression that represents the area, A, of the shaded region.

(The area of a circle is $A = \pi r^2$.)

Algebra I: Geometry and Measurement

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	E	M					

District Objective

*Compute the area and perimeter of irregularly shaped regions that require planning or visualization.

**Critical to success in next course.*

PASS Process Standard
I B, C
III A

Quarter
I
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

III. Geometry/Measurement

A. Use the formulas from geometry (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.

NCTM Standard
Pgs. 320-323

Text Correlation	**Rating**	**Additional Resources**
1.4, 2.2	3	Dream Room Project Activity; Find the Area of the Shaded Part Activity

Assessment

1. A fence is to be built along the border of the irregularly shaped lot shown in the diagram below. To the nearest foot, which of the following is the smallest number of feet of fence required to surround the lot along the border?

(a) 66 (b) 85 (c) 86
(d) 87 (e) 90

2. In the figure below, lengths are given in yards. What is the figure's area, in square yards? (Note: Assume adjacent sides meet at right angles.)

(a) 40 (b) 46 (c) 50
(d) 52 (e) 56

3. Two 4-by-8-foot rectangular sheets of plywood overlap to form the base for a model train layout, as illustrated in the figure below. What is the area of this L-shaped region, in square feet:

(a) 16 (b) 32 (c) 48
(d) 64 (e) 96

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Exhibit knowledge of elementary number concepts such as ordering decimals and fractions.

PASS Process Standard
I A

Quarter
I
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

NCTM Standard
Pgs. 290-294

Text Correlation	**Rating**	**Additional Resources**
2.1	3	Working With Numbers by Steck-Vaughn - Pgs. 28 and 118; Intelligent Questions Activity; Fraction Four Game; Which Fraction is Greater? Activity-Parts 1 and 2

Assessment

1. Which of the following lists the fractions $\frac{4}{7}$, $\frac{5}{9}$, and $\frac{2}{3}$ in order from least to greatest?

(a) $\frac{2}{3} < \frac{4}{7} < \frac{5}{9}$ (b) $\frac{4}{7} < \frac{5}{9} < \frac{2}{3}$ (c) $\frac{4}{7} < \frac{2}{3} < \frac{5}{9}$

(d) $\frac{5}{9} < \frac{2}{3} < \frac{4}{7}$ (e) $\frac{5}{9} < \frac{4}{7} < \frac{2}{3}$

2. Place the following in order from least to greatest.

(a) 3.04 (b) 3.4 (c) 0.304 (d) 0.34

3. Of the following fractions, which is between $\frac{2}{3}$ and $\frac{9}{10}$?

(a) $\frac{3}{10}$ (b) $\frac{2}{5}$ (c) $\frac{5}{10}$ (d) $\frac{7}{8}$ (e) $\frac{19}{20}$

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
*Perform the 4 basic operations using the Real Number System.
**Critical to success in next course.*

PASS Process Standard

Quarter
I
No. Days
5

○ **ITBS** ● **CRT** ○ **EXPLORE** ○ **EOI** ● **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...

NCTM Standard
Pgs. 290-294

Text Correlation	**Rating**	**Additional Resources**
2.2, 2.3, 2.5, 2.7	1	Cindy Boyd-"Orange You Great at Integers" Card Game Activity; Working With Numbers - Pgs. 29-30; Beginning Algebra I - Road Races

Assessment

1. What is the sum of $0.4,\ 2,\ 1.5,$ and -3?

(a) -6.9 (b) 0.9 (c) 1.8 (d) 4.5 (e) 6.9

2. A thermometer indicates a temperature of -10^{o}F. After 4 hours, the temperature has dropped 15^{o}F. What is the new temperature, in degrees Fahrenheit?

(a) 25^{o} (b) 5^{o} (c) -5^{o} (d) -15^{o} (e) -25^{o}

3. What number is 18 more than -500?

(a) -518 *(b) -482 (c) $27\frac{7}{9}$ (d) 482 (e) 518

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Evaluate simple expressions using absolute value.

PASS Process Standard

Quarter
I
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...
I. Number Sense/Algebraic Operations
C. Simplify and evaluate **expressions** including:
2. absolute value

NCTM Standard
Pgs. 290-294

Text Correlation	**Rating**	**Additional Resources**
2.1, 2.3, 2.4	1	Algebra War! - Cindy Boyd

Assessment

1. $|8| - |3 - 6| = ?$

(a) -17 (b) 1 (c) 5 (d) 11 (e) 17

2. Evaluate the expression $-5x(|x - 7|)$ when $x = -3$.

3. Find the opposite of the number $\frac{6}{5}$.

4. Find the opposite of the number $\left|-\frac{6}{5}\right|$.

5. Evaluate the expression $\left|-\frac{7}{3}\right|$.

6. Evaluate the expression $-\left|\frac{7}{3}\right|$.

7. Evaluate the expression $\left|-\frac{5}{2}\right| - \left|\frac{5}{2}\right|$.

Algebra I: Number Sense / Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective

*Combine like terms (e.g., $2x + 5x$).

**PASS Process Standard*

Quarter
I
No. Days
1

**Critical to success in next course.*

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

I. Number Sense/Algebraic Operations

C. Simplify and evaluate **expressions** including:

1. linear (one and two variables)

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
2.6	1	Beginning Algebra Resource Book C3; Dunk the Distributive Property Activity; Algebra Tiles Activity

Assessment

1. For all real numbers x and y, $4x^3y + 3xy^3 - 2x^3y = ?$

(a) $5xy^3$ (b) $5x^3y^3$ (c) $5x^4y^4$ (d) $3xy^3 + 2$ (e) $2x^3y + 3xy^3$

2. Simplify:

$2x + 6(x + 7)$

$4x - 5 + 2x + 1$ (a) $2x - 4$ (b) $6x - 4$ (c) $2x - 6$ (d) $6x - 6$

3. Which of the following is a simplified form of $-8x - 4z + 5x + 2y + z - 3y$?

(a) $13x - y + 3z$ (b) $3x + y + 3z$ (c) $-3x + 5y - 5z$

(d) $-3x + y + 3z$ *(e) $-3x - y - 3z$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	M						

District Objective

*Solve linear equations for 1 variable by using 1 or more operations.

**Critical to success in next course.*

PASS Process Standard

Quarter
I
No. Days
4

○ **ITBS** ○ **CRT** ● **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...

II. Functions and Relations

I. Solve linear equations by graphing or using properties of equality.

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
3.1 (1-step) 3.2 (2-step) 3.3 (variable-both sides)	1	Solving Equations-Chain Link Posters Scavenger Hunt Activity; Hopping Good at Equations Card Game Activity; Equation War Activity; Using Algebra Tiles to Solve Equations with Variables on Both Sides Activity; Algebra War! Activity-Cindy Boyd

Assessment

1. If $-(5x-21)=2x,$ then $x=?$

*(a) 3 (b) 5 (c) 7 (d) -3 (e) -7

2. $7-3(m+4)=3(m+1)$

(a) -13 (b) $\frac{5}{3}$ (c) $-\frac{4}{3}$ (d) -3 (e) 40

3. If $k-5x=10,$ what is the value of x when k=30?

(a) $\frac{1}{4}$ (b) 4 (c) $5\frac{1}{3}$ (d) 8 (e) 160

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Write equations with a single variable for common Pre-Algebra settings (i.e., rate, distance, and proportions).

PASS Process Standard
II A

Quarter
I
No. Days
2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
I. Solve linear equations by graphing or using properties of equality.

NCTM Standard
Pgs. 334-341

Text Correlation
3.1, 3.2, 3.3, 3.4

Rating
1

Additional Resources
Extra Practice 3.3; Translating into Algebraic Expressions - Real World Context Exercises
http://www2.hawaii.edu/suremath/the3Rs5.html

Assessment

1. At a dairy it takes 90 seconds to fill 30 one - gallon jugs of milk. How many minutes does it take to fill 90 jugs of milk?
(a) 1 (b) 3 (c) 3.5 (d) 4 (e) 4.5

2. The sales tax rate in a certain state is 4%. Find the total price paid for a pair of shoes that costs $53.
(a) $74.20 (b) $21.20 (c) $2.12 (d) $55.12

3. What value of x solves the following proportion? $\frac{9}{6} = \frac{x}{8}$
(a) $5\frac{1}{3}$ (b) $6\frac{3}{4}$ (c) $10\frac{1}{2}$ (d) 11 *(e) 12

4. An article regularly selling for $40.66 is advertised at 35% off. Find the sale price.
(a) $54.89 (b) $39.24 (c) $26.43 (d) $14.23

5. A toy manufacturer is testing toy cars. The data below were collected for 4 different toy cars.

TOY CAR TESTS

Car	Distance Traveled	Time
Zoomer	6 feet	23 seconds
Green Machine	8 feet	48 seconds
Tornado	3 1/2 feet	12 seconds
Super Racer	2 feet	8 seconds

Which car traveled at the fastest rate?
(a) Zoomer (b) Green Machine (c) Tornado (d) Super Racer

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Solve equations having integer, decimals, and fractional answers by using 1 or more operations.

PASS Process Standard

Quarter
I
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
I. Solve linear equations by graphing or using properties of equality.

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
3.5	1	Extra Practice 3.4; Heath Worksheets Pgs. 45-46; Algebra Tiles; Algebra War! Activity; Using Equations to Solve Puzzles Activi

Assessment

1. If $3x + 7 = 28 - 5x$, then $x = ?$

(a) $\frac{21}{8}$ (b) $\frac{35}{8}$ (c) $\frac{23}{10}$ (d) $-\frac{35}{2}$ (e) $-\frac{35}{8}$

2. If $\frac{3}{2}x + 7 = 5$, then $x = ?$

(a) $-\frac{7}{5}$ (b) $-\frac{4}{3}$ (c) $-\frac{3}{4}$ (d) $\frac{1}{3}$ (e) $\frac{5}{7}$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Solve simple equations when using decimal numbers.

PASS Process Standard

Quarter
I
No. Days
1/2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...

II. Functions and Relations

I. Solve linear equations by graphing or using properties of equality.

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
3.5	1	Addison Wesley Making Practice Fun, Pgs. 10-11; Two Footed Competition Activity; Math for Morons Like Us - Single Variable Equations Activity

Assessment

Solve the equation. Round your result to two decimal places.

1. $14.2y - 12.5 = 6.4y - 13.7$

2. $18.3y - 7.6 = 8.4y - 14.6$

3. $27.4y - 11.2 = 7.3y - 12.6$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Solve linear equations including real-world problems.

PASS Process Standard
I A
II A
IV A, C

Quarter
I
No. Days
2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
I. Solve linear equations by graphing or using properties of equality.

NCTM Standard
Pgs. 334-341

Text Correlation	**Rating**	**Additional Resources**
3.1, 3.2, 3.3, 3.4	1	T-Shirt Lettering Activity

Assessment

1. Over the course of one day, the temperature in a city dropped from 86^{o} Fahrenheit to 68^{o} Fahrenheit. What is that drop as measured in degrees Celsius?
[Note: The formula for converting Fahrenheit temperatures (F) to Celsius temperatures (C) is $C = \frac{5}{9}(F - 32)$.]
(a) 10^{o} (b) 18^{o} (c) 20^{o} (d) 30^{o} (e) 50^{o}

2. A desk - chair set costs \$9.89. If a dozen sets are purchased at once, the cost is reduced to \$9.14 per set. A school needs to buy 1 gross (12 dozen) sets. How much does it save by buying the sets by the dozen instead of singly?
(a) \$9.00 (b) \$18.00 (c) \$19.03 (d) \$24.00 (e) \$108.00

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective
Manipulate equations to solve for a given variable (i.e., literal equations).

PASS Process Standard
IV B
V C

Quarter
I
No. Days
3

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
I. Solve linear equations by graphing or using properties of equality.

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
3.6	1	Algebra War! Activity - Cindy Boyd

Assessment

1. If $A = \frac{1}{2}h(b+c)$, then which of the following is a formula for c in terms of A, b, and h?

(a) $c = A - h - b$ (b) $c = 2A - h - b$ (c) $c = 2A - bh$

(d) $c = \frac{A}{h} - b$ *(e) $c = 2\frac{A}{h} - b$

2. Perimeter of a Rectangle:
Solve for L: $P = 2L + 2W$

3. Volume of a Circular Cylinder
Solve for h: $V = \pi r^2 h$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I		E	E		M	

District Objective
Solve absolute value equations.

PASS Process Standard
II A, B

Quarter
I
No. Days
2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
4.8 Pg. 226	1	Reteach Resource 4.8; Graphing Calculator; http://www.mathaid.com/products/Algebra2/full/LinFunctions/AbsIneq/index_.html http://www.mathaid.com/products/Algebra2/full/LinFunctions/EquationsLines/Gra.../index_.htm

Assessment

1. Find x:

   $|x+1| = 7$

   $|4x+3| - 4 = 8$

2. $|-3| + n = 0$

3. $|-9| + z = -5$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective

*Exhibit knowledge of inequalities
(e.g., list values of x such that $x < 5$ and $x > 1 + 2$).

**Critical to success in next course.*

PASS Process Standard

Quarter
II
No. Days
1

○ **ITBS** ○ **CRT** ● **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

II. Functions and Relations

J. Solve linear inequalities by graphing or using properties of inequalities.

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
6.1, 6.2	1	Number Line Activity

Assessment

Match each statement with the correct number line.

1. all numbers greater than 4 a.
2. all numbers less than or equal to 2 b.
3. all integers greater than 4 c.
4. all integers greater than or equal to 4 d.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Solve first degree inequalities that do not require inequality sign change.

PASS Process Standard

Quarter
II
No. Days
1/2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
J. Solve linear inequalities by graphing or using properties of inequalities.

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
6.1	2	http://www.math.com/homeworkhelp/HotSubjects_inequalities.html

Assessment

1. Solve for x in the problem $5x - 3 < 12$.

2. Solve the inequality $3 + 4x \leq x - 2$.

3. Solve the inequality $9 + \frac{1}{2}x \leq 11$.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	E		M				

District Objective
Solve linear inequalities that require reversing the inequality sign.

PASS Process Standard

Quarter
II
No. Days
2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

II. Functions and Relations

J. Solve linear inequalities by graphing or using properties of inequalities.

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
6.1	2	Heath WS 146; Addison Wesley-Making Practice Fun, Pg. 61, © 1978; Inequality Activity; Scavenger Hunt Activity; http://www.mathaid.com/products/Algebra2/full/LinFunctions/LinIneq/index_.html

Assessment

1. Graph: $5x - 4 \leq 3(x - 3)$

(a) (b)

(c) (d)

2. Solve the inequality $4 - 3x \geq x + 3$.

3. Solve the inequality $2 - \frac{1}{3}x > 3$.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	M						

District Objective
Identify and graph the solution set of a linear inequality on the number line.

PASS Process Standard
V A

Quarter
II
No. Days
1/2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
J. Solve linear inequalities by graphing or using properties of inequalities.

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
6.1	1	Math Power! Activity; Hot Numbers Activity

Assessment

1. Which of the following graphs represents all, and only, the real numbers that satisfy $x - 8 \le 2$?

(a)

*(b)

(c)

(d)

(e)

2. Which of the following is the graph of the solution set for $3(2 + x) < 3$?

(a)

(b)

*(c)

(d)

(e)

3. Write the inequality whose graph is below.

4. Write the inequality whose graph is below.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
Write and solve inequalities with a single variable for common Pre-Algebra and Algebra settings.

PASS Process Standard
II A

Quarter
II
No. Days
2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

II. Functions and Relations

K. Match appropriate equations or inequalities (1 or 2 variables) to a graph, table, or situation and vice versa.

NCTM Standard
Pgs. 334-341

Text Correlation	**Rating**	**Additional Resources**
6.2	1	Word Problem Activity

Assessment

1. Walking at 250 feet per minute, it takes you 10 minutes to walk from your home to school. Your uncle's home is closer to school than yours. Write an inequality for the distance your uncle lives from school.

2. An amusement park charges $5 for admission and $0.80 for each ride. Suppose you go to the park with $13. Write an inequality that represents the possible number of rides you can go on. What is your maximum number of rides?

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective
*Exhibit knowledge of and use the Cartesian coordinate system (plot points).
**Critical to success in next course.*

PASS Process Standard

Quarter
II
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...

NCTM Standard
Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
3.7	1	Picture Graph Activity; Class as a Graph Activity

Assessment

1. In the standard (x, y) coordinate plane below, what coordinates would locate point A?

(a) $(-2,-1)$
(b) $(-2, 1)$
(c) $(-1, 2)$
(d) $(1, -2)$
(e) $(2, 1)$

2. In the standard (x, y) coordinate plane, 3 corners of a rectangle are $(1, -1)$, $(-4, -1)$, and $(1, -4)$. Where is the rectangle's fourth corner?

(a) $(1, 4)$ (b) $(-1, 4)$ (c) $(-1, 1)$ (d) $(-1, -4)$ *(e) $(-4, -4)$

3. In the standard (x, y) coordinate plane, beginning at the point $(-1, 1)$, you move your pencil point 3 units in the positive x direction, 4 units in the negative y direction, 2 units in the negative x direction, and 1 unit in the positive y direction. What are the coordinates of your pencil point's location after these moves?

(a) $(0, -2)$
(b) $(0, -3)$
(c) $(1, -2)$
(d) $(-2, 2)$
(e) $(-2, 0)$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	M						

District Objective
Write the equation of and graph a line using a set of points.

PASS Process Standard

Quarter
II
No. Days
2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
E. Write the equation of and graph linear relationships:
5. a set of data points

NCTM Standard
Pgs. 297-300

Text Correlation 4.1, 4.2	Rating 1	Additional Resources

Assessment

1. How many of the following 4 points in the standard (x,y) coordinate plane lie on the line with equation $3x-5y=15$?

$(-5,-6), (-5,-3), (-5, 0), (-5, 6)$

(a) 0 (b) 1 (c) 2 (d) 3 (e) 4

2. Given the following information, graph and give an equation:

x	y
-2	-6
-1	-4
0	-2
1	0
2	2

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I		E	M			

District Objective

Determine the difference between relations and functions, the domain and range of a function, and dependent/independent variables.

PASS Process Standard
II A
IV D

Quarter
II
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective The student will... **II. Functions and Relations** A. Define and distinguish between **relations** and **functions**, **dependent** and **independent** variables, and **domain** and **range** using **function** notation.	**NCTM Standard** Pgs. 297-300

Text Correlation 12.1	**Rating** 1	**Additional Resources** http://www.coolmath.com/func1.htm

Assessment

Variable, x	a	b	c	d	e
Variable, y	2	3	2	1	5

1. Is y a function of x? YES
2. Is x a function of y? NO

3. State the domain of the function using the following table. Find $f(0)$ and $f(2)$.

Input values, x	0	2	4	6	8	10
Output values, $f(x)$	0	1	2	3	4	5

ANSWER: {0, 2, 4, 6, 8, 10}; 0, 1

Algebra I: Functions and Relations

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**
									I		E	M			

District Objective Evaluate a function using tables, verbal rules, equations, or graphs.	**PASS Process Standard** II A IV D	**Quarter** II **No. Days** 1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective The student will... **II. Functions and Relations** C. Evaluate a **function** using tables, verbal rules, equations, or graphs.	**NCTM Standard** Pgs. 297-300

Text Correlation 12.2	**Rating** 1	**Additional Resources** http://score.kings.k12.ca.us/lessons/functions.html

Assessment

1. State the domain of the function. Find $f(0)$ and $f(2)$.

Input values, x	0	2	4	6	8	10
Output values, $f(x)$	0	1	2	3	4	5

ANSWER: {0, 2, 4, 6, 8, 10}; {0, 1}

2. For all a, if $x+1=a$ and $y-a=1$, then $xy=$?

(a) a^2+1 (b) a^2-1 (c) $(a+1)^2$ (d) $(a-1)^2$ (e) a^2

3. Evaluate $f(x)=17x-25$ when $x=-3$ and $x=2$. *ANSWER*: $-76,\ 9$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective *Find the intercepts of the graph of a linear equation. **Critical to success in next course.*	**PASS Process Standard**	**Quarter** II **No. Days** 2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective The student will... **II. Functions and Relations** E. Write the equation of and graph linear relationships: 4. ***x*-intercept** and ***y*-intercept**.	**NCTM Standard** Pgs. 297-300

Text Correlation 4.1, 4.3, 4.6	**Rating** 1	**Additional Resources** Graphing Calculator; Intercepts and Slope Activity

Assessment

1. What are the (x, y) coordinates of the point at which the line determined by the equation $3y = -12$ crosses the y-axis?

(a) $(0, 4)$ (b) $(0, -4)$ (c) $(3, -12)$ (d) $(-4, 0)$ (e) $(4, 0)$

2. Find the x and y intercepts of $3x - 4y = 12$ and graph the line.

3. Locate and label the x and y intercepts.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	M						

District Objective Find the slope of a line given the graph of the line..	**PASS Process Standard**	**Quarter** II **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** D. Find the **slope** of a line given: 1. the graph of the line	**NCTM Standard** Pgs. 297-300

Text Correlation 4.4	**Rating** 1	**Additional Resources** Slope Exercise Activity

Assessment

Find the slope:

1.

2.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									M						

District Objective *Determine the slope of a line given two points on the line. **Critical to success in next course.*	**PASS Process Standard**	**Quarter** II **No. Days** 2

○ ITBS ○ CRT ○ EXPLORE ● EOI ○ PLAN ○ ACT ○ AP	
PASS Objective The student will... **II. Functions and Relations** D. Find the **slope** of a line given: 3. two points on the line	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
4.4	1	Making Practice Fun, Pg. 52 - Addison Wesley; Slope Snap Activity; Wheelchair Ramp Activity

Assessment

1. The coordinates of points A and B are shown in the standard (x,y) coordinate plane below.

What is the slope of $\overleftrightarrow{AB}$?

(a) $-\frac{3}{4}$

(b) $\frac{2}{3}$

(c) $\frac{3}{2}$

*(d) $\frac{3}{4}$

(e) $\frac{4}{3}$

2. What is the slope of the line joining the points $(2, 3)$ and $(-1, 4)$?

3. A line in the standard (x,y) coordinate plane below passes through the points $(-4, 3)$ and $(2, -9)$. What is the slope of this line?

(a) -2

(b) $-\frac{1}{2}$

(c) $\frac{1}{2}$

(d) 1

(e) 2

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I		M				

District Objective *Translate a linear equation in standard form to slope-intercept form. **Critical to success in next course.*	**PASS Process Standard**	**Quarter** II **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** E. Write the equation of and graph linear relationships: 1. **slope** and *y*-**intercept**	**NCTM Standard** Pgs. 297-300

Text Correlation 4.5	**Rating** 1	**Additional Resources** Brian Enright, Part 1 - day 122 Linear Functions Activity; T, Tracks or Trouble Activity

Assessment

Write this equation in slope-intercept form:

$$3x + 2y = 6$$

(a) $2y + 3x = 6$

(b) $2y = -3x + 6$

(c) $x = -\frac{2}{3}y + 2$

(d) $y = -\frac{3}{2}x + 3$

(e) $y = -3x + 6$

Algebra I: Functions and Relations															
K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

									I	E	M				

District Objective *Determine the slope and *y*-intecept of a line from the equation and the graph. **Critical to success in next course.*	**PASS Process Standard**	**Quarter** II **No. Days** 4
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** D. Find the **slope** of a line given: 2. an equation of the line	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
4.5	1	Graphing Calculator; Slope Slider Activity

Assessment

1. What is the slope of the line $4x - 3y = 5$?

(a) $-\frac{5}{3}$

(b) $-\frac{4}{3}$

(c) $-\frac{3}{4}$

(d) $\frac{3}{4}$

*(e) $\frac{4}{3}$

2. What is the slope?

$y = -\frac{1}{3}x + 9$

$x = -3y - 9$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I	E	M				

District Objective *Match linear graphs with their equations. **Critical to success in next course.*	**PASS Process Standard**	**Quarter** II **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		
PASS Objective The student will...		**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
5.1, 5.2, 5.3	1	The Graph Game Activity; GuessLine Program, TI-83+ http://www.quia.com/jg/25908.html

Assessment

1. Identify the equation of the line shown on the graph.

   (a) $y = 2x + 2$
   (b) $y = -\frac{4}{3}x - 4$
   (c) $x - 2y = -4$
   (d) $y = \frac{4}{3}x - 4$

2. Identify the equation of the line shown on the graph.

   (a) $y = 2x + 2$
   (b) $y = -\frac{4}{3}x - 4$
   (c) $x - 2y = -4$
   (d) $y = \frac{4}{3}x - 4$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective *Use slope to determine if lines are parallel, perpendicular, horizontal, or vertical. **Critical to success in next course..*	**PASS Process Standard** III B, C	**Quarter** II **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ● **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** F. Use **slope** to determine if lines are parallel, perpendicular, horizontal, or vertical.	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
4.1, 4.4, 4.5, 5.1	2	Graphing Calculator Desk Slope Activity

Assessment

1. How many lines in the standard (x, y) coordinate plane have slope equal to $\frac{1}{2}$?

(a) 0 (b) 1 (c) 2 (d) 4 (e) An infinite number

2. Determine if the lines are vertical, horizontal, or neither.

(a) $y = x$

(b) $y = 5$

(c) $x = -4$

3. Are the lines parallel, perpendicular, or neither?

(a) $y = -2x + 3; \quad y = -2x - 1$

(b) $2x - y - 3 = 0; \quad x + 2y = 2$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective Predict the effect of parameter changes on graphs of functions.	**PASS Process Standard** II C	**Quarter** II **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** B. Recognize the parent graph of the **functions** $y = k,\ y = x,\ y = \lvert x \rvert$, and predict the effects of **transformations** on the parent graph (e.g., $y = \lvert x \rvert + 2$, change **slope**, change **intercepts**, change **slope** and **intercept**).	**NCTM Standard** Pgs. 297-300

Text Correlation 5.4	**Rating** 3	**Additional Resources** Graphics Calculators; Algebra Aerobics Activity; TI-82 Calculator Worksheet

Assessment

Given the graph of the parent function $y = x$, describe the effect of the changes:

1. $y = x + 2$
2. $y = x - 5$
3. $y = 2x$
4. $y = \frac{1}{4}x$
5. $y = 3x + 2$
6. $y = -3x - 2$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I		E	M			

District Objective Find the slope of the line from a set of data.	**PASS Process Standard**	**Quarter** II **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** D. Find the **slope** of a line given: 4. a set of data points	**NCTM Standard** Pgs. 297-300

Text Correlation None	**Rating** 3	**Additional Resources** "Survival" Math Unit Activity

Assessment

Given the following table, graph the line and find the slope.

x	0	3	6	9
y	10	8	6	4

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective	**PASS Process Standard**	**Quarter**
*Write the equation of a line using the slope and *y*-intercept. **Critical to success in next course.*		II **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective	**NCTM Standard**
The student will... **II. Functions and Relations** E. Write the equation of and graph linear relationships: 1. **slope** and ***y*-intercept**	Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
5.1	1	http://forum.swarthmore.edu/cgraph/cslope/

Assessment

1. Write an equation of the line whose slope is $\frac{1}{3}$ and whose y-intercept is -4.

2. Write an equation of the line whose slope is $-\frac{3}{2}$ and whose y-intercept is -5.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective *Write the equation of a line using a point and the slope. **Critical to success in next course.*	**PASS Process Standard**	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** E. Write the equation of and graph linear relationships: 2. **slope** and one point on the line	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
5.2	1	

Assessment

1. Write an equation, in slope - intercept form, of the line that passes through the point $(-3, 4)$ with slope 2.

2. Find an equation of the line passing through the point $(-5, 7)$ with slope $m = -5$.

3. Write the equation of the horizontal line that passes through the point $(7, -3)$.

4. Write the equation of the vertical line that passes through the origin.

5. Find an equation for the line with undefined slope and passing through the point $(2, -7)$.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective Write the equation of a line when given two points.	**PASS Process Standard**	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** E. Write the equation of and graph linear relationships: 3. two points on the line	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
5.3	1	

Assessment

1. Write an equation for the line containing $(-5, 14)$ and $(1, 8)$.

2. Write the equation of the line in slope - intercept form that passes through the points $(7, -1)$ and $(2, 8)$.

Algebra I: Functions and Relations

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**
									I	E	M				

District Objective Determine the correlation of a set of data.	**PASS Process Standard** III D IV A V A	**Quarter** III **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** G. Collect and graph real data: 1. determine whether the data is linear or nonlinear.	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
5.4	1	Graphing Calculator; Height/Shoe Size Graphing Activity; Height/Age Scatter Plot Activity

Assessment

1. What type of relationship is shown by each scatter plot below?
   Determine if the correlation is:
   (a) linear, or nonlinear?
   (b) positive, negative, or no correlation?

(1) (2)

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I		M				

District Objective	**PASS Process Standard**	**Quarter**
Solve real-world problems through the use of functions.	I A III C IV A, B, C, D V A, B	III **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective	**NCTM Standard**
The student will... **II. Functions and Relations** H. Describe rates of constant change experienced within the context of everyday life as the **slope** of a linear **relation** (e.g., cost of hamburger meat based on weight, cost of gas based on cost per gallon, telephone charges based on base rate plus rate per minute).	Pgs. 334-341

Text Correlation	**Rating**	**Additional Resources**
5.3, 5.7	1	Graphing Calculator California Here We Come Activity

Assessment

1. By the end of your 5th French lesson you have learned 20 vocabulary words. After 10 lessons you know 40 vocabulary words. Write an equation that gives the number of vocabulary words you know, y, in terms of the number of lessons you have had, x.

2. One hundred dollars in a savings account that earns simple interest at an annual rate of 6% will earn $18 interest in 3 years. Find a linear function that models the interest earned. Use the model to find how much interest would be earned if the principle was kept in the account for 7 years.

3. A train travels approximately 920 miles from Chicago, Illinois to Denver, Colorado. The trip takes 9.2 hours. Find a linear function that models the time it takes the train to make a trip. Use the model to estimate the time it would take to travel from Denver to Salt Lake City, Utah (185 miles by train).

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective Match appropriate equations or inequalities (1 or 2 variables) to a graph, table, or situation and vice versa.	**PASS Process Standard** V A, B, C	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** K. Match appropriate equations or inequalities (1 or 2 variables) to a graph, table, or situation and vice versa.	**NCTM Standard** Pgs. 297-300

Text Correlation 4.3	**Rating** 1	**Additional Resources** Graphing Calculator Using Tables for New Rose Offer Activity Using Tables to Find the More Economical Offer Activity

Assessment

1. Which equation matches the following graph?

(a) $7x + 4y = 28$

(b) $y = \frac{7}{4}x + 7$

(c) $y = 7$

(d) $y = -\frac{7}{4}x + 7$

2. Match the equation with its graph.

1. $y = 4x - 8$ 2. $y = 4x - 4$ 3. $y = 4x + 8$ 4. $y = 4x + 4$

(a) (b) (c) (d)

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective Write a line of best fit given a set of data..	**PASS Process Standard** III D IV A V A	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective
The student will...

IV. Data Analysis, Statistics, and Probability

B. Collect data involving two variables and display on a **scatter plot**; interpret results using a linear model/equation and identify whether the model/equation is a line of best fit for the data (e.g., given a **scatter plot** and several linear equations, which one is the best fit?).

NCTM Standard
Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
5.4	2	Graphics Calculators; Line of Best Fit-TI-82 Activity; Are You Above Average Activity; Getting to Know You Linear Investigation Activity; Bungee Egg Drop Lab Activity

Assessment

1. The average June temperatures and latitudes of several cities in the central Untied States are shown in the table. Sketch a scatter plot for these data and find an equation of the line that best fits the data. Use your equation to approximate the average June temperature for a city in the central United States with a latitude of 40^{o}. (Source: P.C., U.S.A.)

City	Latitude	Temperature
Bismark	46.8^{o}	64.3^{o}F
Sioux Falls	43.5^{o}	68.4^{o}F
Omaha	41.2^{o}	73.0^{o}F
Kansas City	39.1^{o}	76.1^{o}F
Wichita	37.7^{o}	73.6^{o}F
Oklahoma City	35.5^{o}	77.0^{o}F
Dallas	33.2^{o}	82.0^{o}F
Houston	29.8^{o}	80.6^{o}F

SOLUTION: $y = -x + 113,\ 73^{o}F$

2. The table shows the total sales for the student store over a 9 year period. Write an equation of the best - fitting line.

3. For the following data:
(a) Make a scatter plot of the data
(b) Draw a line of fit for your scatter plot
(c) Find an equation of your line of fit.

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	E	E	M				

District Objective	**PASS Process Standard**	**Quarter**
1. Interpret and use information from tables and graphs including graphs in the coordinate plane. 2. Write a linear equation which models a set of real data.	I B II A, C III B, C IV D	III **No. Days** 1/2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective	**NCTM Standard**
The student will... **II. Functions and Relations** G. Collect and graph real data. 2. write a linear equation which models a set of real data	Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
5.4	2	Cognitive Algebra Tutor, 2-22 to 2-24 Graphing Calculator; Gas Guzzler Problem Activity

Assessment

1. Xavier and Yolanda have a total of 20 $1 bills. All of the possible ways to divide the 20 bills between Xavier and Yolanda are graphed below. If Xavier must have an even number of $1 bills, how many possible numbers of $1 bills are there for Yolanda to have? (Note: Zero is an even number.)

(a) 2
(b) 10
*(c) 11
(d) 20
(e) 21

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective Collect and graph real data and describe the slopes and intercepts in the context of the data.	**PASS Process Standard** III A, B, C	**Quarter** III **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** G. Collect and graph real data: 3. describe the **slope** and **intercepts** in the context of the data	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
4.5, 5.1	2	Cognitive Algebra Tutor, 2-22 to 2-24 Graphing Calculator; Corny Equations with Computers and Calculators Activity

Assessment

Tim is a waiter in a restaurant. His base pay is $750 per month. Tim also earns tips amounting to 15% of the value of the meals he serves.

1. Write a linear model that gives Tim's total monthly pay, y, in terms of the value, x, of the meals he serves. (Answer: $y = 0.15x + 750$)

2. Sketch the graph of the linear model.

3. What is the y-intercept of the line? What does the y-intercept represent? (Answer: 750, base pay)

4. Use the model to find Tim's monthly pay for serving $5000 worth of meals. (Answer: $1500)

5. What is the slope of the line? What does the slope represent?

6. How much must Tim serve in order to earn $2000 in a month? (Answer: $8333.33)

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective Make predictions using a linear model.	**PASS Process Standard** III B, C, D	**Quarter** III **No. Days** 1-1/2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective
The student will...
II. Functions and Relations
G. Collect and graph real data:
4. make predictions using a linear model

NCTM Standard
Pgs. 329-331

Text Correlation	**Rating**	**Additional Resources**
5.4, 5.7	1	Graphing Calculator; Have You Lost Your Marbles? Activity; Using Line of Best Fit Human Chain Experiment Activity

Assessment

Crickets make a chirping sound by rubbing their legs together. The number of chirps that a cricket makes per minute is related to the temperature, as shown in the scatter plot at the right. In the graph, y represents the number of chirps per minute and x represents the temperature in degrees Fahrenheit. Find an equation of the line that you think best fits this data. Then use the equation to approximate the number of chirps per minute made by a cricket when the temperature is 85^{o}

(Answer: $y = 4x - 165$, 175)

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
									I	E	M				

District Objective *Find and apply solutions to systems of linear equations by graphing. **Critical to success in next course.*	**PASS Process Standard** III A, C, D	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** L. Solve a system of linear equations by: 1. graphing	**NCTM Standard** Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
7.1, 7.4	1	Cognitive Algebra Tutor, 4-13 to 4-18 Graphing Calculator; Personal Spending Habits Activity

Assessment

1. Graph and check to solve the system.

$$\begin{cases} 4x - 3y = -6 \\ 4x - 2y = 0 \end{cases}$$

Answer: $(3,\ 6)$

2. Two straight lines are graphed in the standard (x, y) coordinate plane below.
What are the coordinates of their intersection?

(a) $\left(\frac{3}{4}, \frac{3}{4}\right)$

*(b) (1,1)

(c) $\left(\frac{3}{2}, \frac{3}{2}\right)$

(d) $\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

(e) $\left(\sqrt{2}, \sqrt{2}\right)$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	E	M					

District Objective *Find and apply solutions to systems of linear equations by substitution. **Critical to success in next course.*	**PASS Process Standard** III A, C, D	**Quarter** III **No. Days** 4
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** L. Solve a system of linear equations by: 2. substitution	**NCTM Standard** Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
7.2, 7.4	1	Scavenger Hunt-Solving Systems by Substitution Activity

Assessment

1. Solve the linear system by the substitution method.

$$\begin{cases} x + y = 1 \\ 2x + y = -2 \end{cases}$$

2. Margaret has d dimes and n nickels totaling \$3.00. If she has 40 coins altogether, which of the pairs of equations could be used to solve for the number of nickels and dimes Margaret has?

(a) $\begin{cases} .1(d) + .05(40 - x)n = 3.00 \\ n + d = 40 \end{cases}$ (b) $\begin{cases} 3.00 - d = n \\ n + d = 40 \end{cases}$ (c) $\begin{cases} .05n + .10d = 3.00 \\ n + d = 40 \end{cases}$

(d) $\begin{cases} 40 - (n + d) = 3.00 \\ n + d = 40 \end{cases}$ (e) $\begin{cases} 2n + d = 3.00 \\ n + d = 40 \end{cases}$

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	E	M					

District Objective *Find and apply solutions to systems of linear equations by elimination/combination. **Critical to success in next course.*	**PASS Process Standard** III A, C, D	**Quarter** III **No. Days** 4
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** L. Solve a system of linear equations by: 3. elimination	**NCTM Standard** Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
7.3, 7.4	1	Classifying Linear Systems: Parallel, Perpendicular, or Concurrent Activity; Super Systems Activity

Assessment

1. Solve the linear system by the elimination / combination method:

$$\begin{aligned} 2x + 3y &= 1 \\ 2x - 3y &= 1 \end{aligned}$$

2. At a movie, the cost of an adult's ticket is \$1.50 and the cost of a student's ticket is \$0.75. If 500 people see the show and spend a total of \$450, how many of the people who saw the show were students?

(a) 100 (b) 200 (c) 300 (d) 400
(e) It cannot be determined from the information given.

Algebra I: Number Sense /Algebraic Operations
(Powers and Exponents)

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I		M				

District Objective *Use multiplication properties of exponents to evaluate powers and simplify expressions such as multiplying like bases. **Critical to success in next course.*	**PASS Process Standard** IV C	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ● **PLAN** ● **ACT** ○ **AP**		
PASS Objective The student will... **I. Number Sense/Algebraic Operations** B. Apply the laws of exponents to perform operations on **expressions** with **integral exponents**.		**NCTM Standard** Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
8.1	2	Memory Game Activity; Sweet Exponents Card Game Activity; Scavenger Hunt or Chain Link Activity

Assessment

1. The idea of integer multiplication can be explained as repeated addition. For example,

$11 \cdot 5 = 5+5+5+5+5+5+5+5+5+5+5.$

What operation can be explained, in a similar way, as repeated multiplication:

	OPERATION	EXAMPLE
(a)	Addition	$11+5$
(b)	Subtraction	$11-5$
(c)	Multiplication	$11 \cdot 5$
(d)	Division	$\frac{11}{5}$
(e)	Exponentiation	5^{11}

2. Simplify: $\frac{8^5 \cdot 8^3}{8^2}$

3. Simplify: $6x^2y(-2xy^2)$

Algebra I: Number Sense /Algebraic Operations

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**
									I		M				

District Objective	**PASS Process Standard**	**Quarter**
*1. Use multiplication properties of exponents such as a power to a power. *2. Square numbers and expressions. **Critical to success in next course.*	V C	III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective	**NCTM Standard**
The student will... **I. Number Sense/Algebraic Operations** B. Apply the laws of exponents to perform operations on **expressions** with **integral exponents**.	Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
8.1	2	Poster Activity; Monomial Math Nut Card Game Activity

Assessment

For all x and y, $(-2x^2y)^3 = ?$

(a) $-6x^5y^4$ (b) $-6x^6y^4$ (c) $-8x^5y^4$ *(d) $-8x^6y^3$ (e) $-8x^8y^3$

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	E	E	M				

District Objective Use negative and zero exponents in algebraic expressions.	**PASS Process Standard** V C	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** B. Apply the laws of exponents to perform operations on **expressions** with **integral exponents**.	**NCTM Standard** Pgs. 300-303

Text Correlation 8.2	**Rating** 1	**Additional Resources**

Assessment

1. $2^0 \cdot 3^{-3}$

2. How many different real values of x satisfy $4^{x+3} = 1$?

(a) None *(b) 1 (c) 2

(d) 3 (e) An infinite number

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	E	E	M				

District Objective *Use the division properties of exponents to evaluate powers and simplify expressions. **Critical to success in next course.*	**PASS Process Standard** IV A, B, C V C	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** B. Apply the laws of exponents to perform operations on **expressions** with **integral exponents**.	**NCTM Standard** Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
8.3	3	Evaluation of Monomials Activity; Evaluation of Polynomials Activity; Scavenger Hunt for Reviewing Addition and Subtraction of Polynomials and Multiplying and Dividing Polynomials Activity

Assessment

1. $\left(\frac{4}{5}\right)^{2}$

2. $\frac{7x^{-1}y^{3}}{x^{2}y^{-2}} \cdot \frac{(3xy^{2})^{-1}}{xy}$

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective Use scientific notation to express and perform operations involving large and small numbers.	**PASS Process Standard** IV A, B, C	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** B. Apply the laws of exponents to perform operations on **expressions** with **integral exponents**.	**NCTM Standard** Pgs. 291-292

Text Correlation 8.4, 8.5	**Rating** 2	**Additional Resources** Reteach 8.4 and 8.5; 3D Scientific Notation Algebra Activity; How Many Earths? Activity; http://www.mathstories.com/grade_JrHigh.htm

Assessment

1. A whale has a mass of 1.0×10^5 kilograms. A flea has a mass of 3.0×10^{-4} kilogram. What is the ratio of the mass of a whale to that of a flea?

2. In scientific notation, $0.01 = ?$

(a) 1×10^3

(b) 1×10^2

(c) 1×10^{-1}

(d) 1×10^{-2}

(e) 1×10^{-3}

3. Convert to scientific notation and multiply. Express the answer in scientific notation.

$8{,}000{,}000 \cdot 623{,}000$

Algebra I: Number Sense /Algebraic Operations															
K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

									I	E	M				

District Objective *Add and subtract polynomials including binomials. **Critical to success in next course.*	**PASS Process Standard** V C	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** D. Add, subtract, and multiply polynomials.	**NCTM Standard** Pgs. 297-300

Text Correlation 10.1	**Rating** 1	**Additional Resources** Scavenger Hunt for Addition and Subtractions of Polynomials Activity

Assessment

1. Which of the following is a simplified form of $-8x-4z+5x+2y+z-3y$?

(a) $13x-y+3z$ (b) $3x+y+3z$ (c) $-3x+5y-5z$

(d) $-3x+y+3z$ *(e) $-3x-y-3z$

2. Which of the following polynomials is equivalent to $3x(2x^2+1)-4(3x^2+2)+5$?

(a) $6x^3-12x^2+3x+13$ *(b) $6x^3-12x^2+3x-3$ (c) $35x^3+21x+5$

(d) $-6x^2+3x-3$ (e) $-3x^6-8$

3. $12x^2+8x^2+5x+3x+2$ is equivalent to:

(a) $30x^6$ (b) $20x^2+10x$ (c) $20x^4+10x^2$

(d) $20x^2+8x+2$ (e) $20x^4+8x^2+2$

4. Which of the following is equivalent to $2(a+3b-2c)-5(3a-2b+4c)$?

(a) $-13a+16b-24c$ (b) $-13a-4b+16c$ (c) $6a-15b+18c$

(d) $-21abc$ (e) $-1abc$

Algebra I: Number Sense /Algebraic Operations

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

									I	E	M				

District Objective *Multiply polynomials. **Critical to success in next course.*	**PASS Process Standard** V C	**Quarter** III **No. Days** 4
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** D. Add, subtract, and multiply polynomials.	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
10.2	2	Multiplying Binomials and Factoring Quadratic Polynomials: Part B Activity; Algebra Tile Activity; Polynomial Math Whiz Card Game Activity

Assessment

Multiply the following and simplify:

1. $-2x(3x^3 - 4x^2 + 1)$

2. $(x+2)(x^2 + 4x - 5)$

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I	E	M				

District Objective Identify and apply multiplicative techniques for special case polynomials (i.e., difference of two squares).	**PASS Process Standard** V C	**Quarter** III **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** D. Add, subtract, and multiply polynomials.	**NCTM Standard** Pgs. 297-300

Text Correlation 10.3	**Rating** 2	**Additional Resources** Polynomials: Special Cases Card Game Activity

Assessment

Simplify:

1. $(x+3)^2$

2. $(2x-5)^2$

3. $(x+4)(x-4)$

4. $(3x+1)(3x-1)$

Algebra I: Number Sense /Algebraic Operations (Factoring)

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

							I	E	M						
District Objective Find the prime factorization of a number.												**PASS Process Standard** II C		**Quarter** IV **No. Days** 1/4	
○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ● **PLAN** ● **ACT** ○ **AP**															
PASS Objective The student will...														**NCTM Standard** Pgs. 297-300 Pgs. 291-292	

Text Correlation 10.4	**Rating** 3	**Additional Resources** Algebra - Fun With Calendars Activity; http://explorer.scrtec.org/explorer/explorer-db/html/783750062-447DED81.html http://www.edteach.com/algebra/numbers/prime_factor_machine.html

Assessment

What is the prime factorization of 60?

(a) $(2+2)(5+5+5)$

(b) $(2+2+2)(2)(5)$

(c) $(2)(2)(3)(5)$

(d) $(2)(5)(6)$

(e) $(3)(4)(5)$

Algebra I: Number Sense /Algebraic Operations (Factoring)

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

							I	E	M						

District Objective Find greatest common factors.	**PASS Process Standard** II C
○ **ITBS** ○ **CRT** ● **EXPLORE** ○ **EOI** ● **PLAN** ○ **ACT** ○ **AP**	**Quarter** IV **No. Days** 1/4
PASS Objective The student will...	**NCTM Standard** Pgs. 291-292 Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
10.4	3	What Does Greatest Common Factor Mean to Me? Activity

Assessment

Find the greatest common factor:

$16x^2y$, $84xy^2$, $36x^2y^2$

Algebra I: Number Sense /Algebraic Operations (Factoring)

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

									I		M			

District Objective *Identify and use the distributive property to factor. **Critical to success in next course.*	**PASS Process Standard** II C IV D	**Quarter** IV **No. Days** 1/2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will...	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
10.4	3	

Assessment

1. Factor $12xy^2 + 16x^2y$.

2. Factor out the greatest common factor of $x^3y^5z^7 + x^2y^6z^4$

Algebra I: Number Sense /Algebraic Operations (Factoring)

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

									I		M				

District Objective *Identify and apply the grouping method of factoring (i.e., 4 terms or lead coefficient greater than 1). **Critical to success in next course.*	**PASS Process Standard** II C	**Quarter** IV **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will...	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**

Assessment

1. Use factoring by grouping to factor $x^3 - 2x^2 - 3x + 6$.

$x^3 - 2x^2 - 3x + 6 = (x^3 - 2x^2) + (-3x + 6)$ Group terms

$= x^2(x - 2) - 3(x - 2)$ Factor groups

$= (x - 2)(x^2 - 3)$ Distributive Property

2. Use factoring by grouping to factor $2x^2 + 5x - 3$.

In the trinomial $2x^2 + 5x - 3$, we have $a = 2$ and $c = -3$ which implies that the product ac is -6. Now, because -6 factors as $6(-1)$ and $6 - 1 = 5 = b$, we rewrite the middle term as $5x = 6x - x$. This produces the following.

$2x^2 + 5x - 3 = 2x^2 + 6x - x - 3$ Rewrite middle term

$= (2x^2 + 6x) + (-x - 3)$ Group terms

$= 2x(x + 3) - 1(x + 3)$ Factor groups

$= (x + 3)(2x - 1)$ Distributive Property

Therefore, the trinomial factors as $2x^2 + 5x - 3 = (x + 3)(2x - 1)$

Algebra I: Number Sense /Algebraic Operations (Factoring)															
K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

									I		M				

District Objective Factor simple quadratics (i.e., the difference of squares and perfect square trinomial).	**PASS Process Standard** II C	**Quarter** IV **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will...	**NCTM Standard** Pgs. 297-300

Text Correlation 10.4	**Rating** 3	**Additional Resources** Use "Polynomials Special Delivery Cards" and "Polynomial Math Whiz Cards" from Pgs. 57 & 58, Algebra I; http://www.sosmath.com/algebra/factor/fac05/fac05.html

Assessment

Factor the following:

1. $x^2 - 36$ *ANSWER*: $(x+6)(x-6)$
2. $p^4 - 225$ *ANSWER*: $(p^2 - 15)(p^2 + 15)$
3. $(x+3)^2 - 1$ *ANSWER*: $[(x+3)-1][(x+3)+1] = (x+2)(x+4)$
4. $x^2 + 6x + 9$ *ANSWER*: $(x+3)(x+3) = (x+3)^2$
5. $y^2 - 16y + 64$ *ANSWER*: $(y-8)(y-8) = (y-8)^2$

Algebra I: Number Sense /Algebraic Operations (Factoring)

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I		M				

District Objective *Identify and apply factoring techniques to simple trinomials. **Critical to success in next course.*	**PASS Process Standard** II C	**Quarter** IV **No. Days** 3
○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		
PASS Objective The student will...		**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
10.5	3	Multiplying Binomials and Factoring Quadratic Polynomials: Part A Activity; Factoring Trinomials Using Algebra Tiles Activity

Assessment

In which of the following is $x^2 + x - 12$ factored?

(a) $(x-1)(x+12)$

(b) $(x-4)(x+3)$

(c) $(x+6)(x-2)$

(d) $(x+1)(x-12)$

(e) $(x+4)(x-3)$

Algebra I: Number Sense /Algebraic Operations (Factoring)

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

									I		M				

District Objective Solve quadratic equations using factoring.	**PASS Process Standard** IV D
○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ● **ACT** ○ **AP**	**Quarter** IV **No. Days** 2
PASS Objective The student will...	**NCTM Standard** Pgs. 297-300

Text Correlation	**Rating**	**Additional Resources**
10.6	3	Factoring Quadratic Equations Activity; http://www.edteach.com/algebra/quad_explorer/quadratic.html

Assessment

Solve for x by factoring.

$2x^2 - 3x + 1 = 0$

SOLUTION:

$(2x-1)(x-1) = 0$

$(2x-1) = 0 \quad (x-1) = 0$

$2x = 1 \quad \text{or} \quad x = 1$

$x = \frac{1}{2} \quad \text{or} \quad x = 1$

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I		M				

District Objective Identify zeros or roots of simple quadratic equations.	**PASS Process Standard** IV D	**Quarter** IV **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ○ **EOI** ○ **PLAN** ● **ACT** ○ **AP**		
PASS Objective The student will...		**NCTM Standard** Pgs. 299-300

Text Correlation	**Rating**	**Additional Resources**
10.6	3	http://users.interact.net.au/~phob/quads3.htm Quadratics 3 Activity

Assessment

Sketch the graph of $y = x^2 - 2x - 3$ by finding the zeros of the quadratic.

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I	E	M				

District Objective Simplify rational expressions and determine when an expression is undefined.	**PASS Process Standard** IV D	**Quarter** IV **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** C. Simplify and evaluate expressions including: 3. rational	**NCTM Standard** Pgs. 297-300

Text Correlation 11.5	**Rating** 2	**Additional Resources**

Assessment

Write $\dfrac{x^2+4x-12}{3x-6}$ in reduced form.

SOLUTION: $\dfrac{x^2+4x-12}{3x-6} = \dfrac{(x+6)(x-2)}{3(x-2)}$

$= \dfrac{x+6}{3}, \quad x \neq 2$

Note that the original expression is undefined when $x = 2$ (because division by zero is undefined). To make sure that the reduced expression is *equivalent* to the original expression, you must restrict the domain of the reduced expression by excluding the value $x = 2$.

Algebra I: Number Sense /Algebraic Operations

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

							I	M							

District Objective *Determine the square of commonly used numbers. **Critical to success in next course.*	**PASS Process Standard** I A IV B, C, D	**Quarter** IV **No. Days** 1
○ **ITBS** ○ **CRT** ● **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** C. Simplify and evaluate expressions including: 4. radical	**NCTM Standard** Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
		http://www.math.com/school/subject1/lessons/S1U1L8GL.html Perfect Radisaurs Card Game Activity

Assessment

$1^2 = 1$	$25^2 = 625$
$2^2 = 4$	$30^2 =$
$3^2 = 9$	$40^2 =$
$4^2 = 16$	$50^2 =$
$5^2 = 25$	.
.	.
.	.
.	
$20^2 = 400$	$100^2 = 10{,}000$

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I	E	M				

District Objective
*Simplify radicals including variables.

**Critical to success in next course.*

PASS Process Standard
I A
IV B, C, D

Quarter
IV
No. Days
2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...
I. Number Sense/Algebraic Operations
C. Simplify and evaluate **expressions** including:
4. radical

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
13.2	3	Luv Those Radicals! Card Game Activity

Assessment

Simplify the following radicals:

1. $\sqrt{24}$ ANSWER: $2\sqrt{6}$

2. $\sqrt{45x^2y^5}$

3. $\sqrt{24x^3y^2z^5}$

Algebra I: Number Sense /Algebraic Operations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I	E	M				

District Objective
*Add, subtract, multiply and divide radicals.

**Critical to success in next course.*

PASS Process Standard
I A
IV B, C, D

Quarter
IV
No. Days
8

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ○ **ACT** ○ **AP**

PASS Objective
The student will...
I. Number Sense/Algebraic Operations
C. Simplify and evaluate **expressions** including:
4. radical

NCTM Standard
Pgs. 300-303

Text Correlation	**Rating**	**Additional Resources**
13.3	3	Radical Products Activity; Over Rationalizing Activity; Radical-ly "Pear"fect Card Game Activity; On Your Toes For Radicals! Card Game Activity; Radical Math Adds Up! Card Game Activity

Assessment

1. Find the sum of $\sqrt{45}$ *and* $\sqrt{125}$.

SOLUTION:

$\sqrt{45}+\sqrt{125}$

$=\sqrt{9}\sqrt{5}+\sqrt{25}\sqrt{5}$

$=3\sqrt{5}+5\sqrt{5}$

$=8\sqrt{5}$

2. $\sqrt{40}-\sqrt{50}$

SOLUTION:

$=\sqrt{4}\sqrt{10}-\sqrt{25}\sqrt{2}$

$=2\sqrt{10}-5\sqrt{2}$

3. $\sqrt{27}\cdot\sqrt{12}$

SOLUTION:

$=\sqrt{27\cdot 12}$

$=\sqrt{324}$

$=18$

Almost always, however, it is easier

$\sqrt{27}\cdot\sqrt{12}$

$=\sqrt{9}\sqrt{3}\cdot\sqrt{4}\sqrt{3}$

$=3\sqrt{3}\cdot 2\sqrt{3}$

$=3\cdot 2\cdot\sqrt{3}\cdot\sqrt{3}$

$=6\cdot 3$

$=18$

4. Simplify $\dfrac{\sqrt{180}}{\sqrt{245}}$ *SOLUTION*: $\dfrac{\sqrt{5}\cdot\sqrt{36}}{\sqrt{5}\cdot\sqrt{49}}=\dfrac{\sqrt{36}}{\sqrt{49}}=\dfrac{6}{7}$

Algebra I: Geometry and Measurement

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I	M					

District Objective Apply the Pythagorean Theorem.	**PASS Process Standard** III D IV A, B, C, D	**Quarter** IV **No. Days** 2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **I. Number Sense/Algebraic Operations** C. Simplify and evaluate **expressions** including: 4. Radical	**NCTM Standard** Pgs. 310-313

Text Correlation 9.1	**Rating** 3	**Additional Resources** http://www.shodor.org/interactivate/activities/pyth2/index.html Squaring the Triangle Activity; Pythagorean Explorer Activity; Pythagorean Theorem: Activity 3; Pythagorean Theorem Activity; Measuring Right Triangles Activity

Assessment

1. What is the perimeter of a right triangle whose legs are 16 and 30?

2. What is the perimeter of a right triangle of which the hypotenuse is 20 inches and one leg is 12 inches?

3. ΔABC is isosceles with $AB = AC = 25$, $AD \perp BC$, and $AD = 24$. Find the area of ΔABC.

4. Which is greater?

COLUMN A	*OR*	COLUMN B
The length of the hypotenuse of a right triangle with legs of 12 and 16		The length of the hypotenuse of a right triangle with legs of 8 and 15

Algebra I: Measurement

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

							I	E	E		M				

District Objective	**PASS Process Standard**	**Quarter**
Apply units of measure to interpret results (e.g., miles per gallon, cost per unit).	IV B, C V A	IV **No. Days** 1/2

○ **ITBS** ● **CRT** ○ **EXPLORE** ● **EOI** ● **PLAN** ● **ACT** ○ **AP**

PASS Objective	**NCTM Standard**
The student will... **III. Geometry/Measurement** B. Apply units of measure to interpret results (e.g., miles per gallon, cost per unit).	Pgs. 321-323

Text Correlation	**Rating**	**Additional Resources**
2.8	2	http://www.teachers.net/lessons/posts/481.html You Can't Get There From Here Activity

Assessment

One $\frac{1}{4}$ – pound stick of butter is 8 tablespoons. How many pounds of butter would it take to have 1 gallon of butter?

(Note: you may use the conversion chart below.)

1 gallon	=	4 quarts
1 quart	=	2 pints
1 pint	=	2 cups
1 cup	=	8 ounces
1 ounce	=	2 tablespoons

(a) 8 (b) 16 (c) 32 (d) 64 (e) 128

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

							I	M							

District Objective
Solve routine one-step and two-step arithmetic problems, single-step percent problems, and straightforward average problems.

PASS Process Standard
IV A, C
V A

Quarter
IV
No. Days
1-1/2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
M. Solve routine two-step and three-step problems using concepts such as rate, distance, **ratio** and **proportion**, average and percent.

NCTM Standard
Pgs. 321-323

Text Correlation	**Rating**	**Additional Resources**
11.2, 12.6, 12.7	3	http://www.mathleague.com/help/percent/percent.htm

Assessment

1. A commonly used formula is $d = rt$, in which d is the distance, r is rate, and t is time traveled. If you travel 220 miles at an average speed of 44 miles per hour, how many hours will it take?
(a) 0.2 (b) 2 (c) 5 (d) 176 (e) 9,680

2. A *stone* is a unit of weight equivalent to 14 pounds. If a person weighs 177 pounds, how many stone, to the nearest tenth, does this person weigh?
(a) 247.8 (b) 126.4 (c) 79.1 *(d) 12.6 (e) 7.9

3. Andrew has 8 shirts and 5 pairs of pants. If all the shirts can be worn with any of the 5 pairs of pants, how many different pant - shirt outfits can he choose from?
(a) 5 (b) 8 (c) 13 (d) 20 (e) 40

4. Michaela scored 70, 78, 91, 93, and 88 on her 5 mathematics tests. What is her average score for the 5 tests?
(a) 79 (b) 83 (c) 84 (d) 88 (e) 91

5 What is the avarage of the following numbers? 50, 84, 80, 76, 60
(a) 67 *(b) 70 (c) 72 (d) 76 (e) 80

6. Solar High School's softball team won 12 games, which was 75% of the games they played. How many games did the team play?
(a) 15 (b) 16 (c) 20 (d) 21 (e) 28

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

							I	E	E	M					

District Objective
Solve routine two-step or three-step arithmetic problems, such as rate and proportion problems, multistep percent (e.g., tax added and percentage off), and average problems (e.g., computing with negative integers or using a given average).

PASS Process Standard
IV A, C
V A

Quarter
IV
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
II. Functions and Relations
M. Solve routine two-step and three-step problems using concepts such as rate, distance, **ratio** and **proportion**, average and percent.

NCTM Standard
Pgs. 354-359

Text Correlation	**Rating**	**Additional Resources**
11.2, 12.7	3	Algebra I Tutor Activity

Assessment

1. In a class, the ratio of students with brown eyes to students with eye color other than brown is 4 to 5. If there are 36 students in the class, how many students have brown eyes?
(a) 4 (b) 9 (c) 16 (d) 20 (e) 31

2. A person goes to the store and purchases the following items: 2 large soft drinks costing $1.59 each, 1 loaf of bread costing $1.17, and 8 pounds of potatoes costing 30 cents per pound. If there is a 4% sales tax on all the items, what is the total bill?
(a) $3.18 (b) $5.37 (c) $6.75 (d) $7.02 (e) $9.45

3. A drugstore is selling 5 brands of toothpaste for $2.45, $2.65, $3.28, $2.17, and $3.95 per tube, respectively. The owner would like to raise the price of each brand by the same amount so that there is a 10% increase in the average price per tube of the 5 brands. How much should be added to the price of each brand to achieve this result?
(a) $.10 (b) $.15 (c) $.29 (d) $1.45 (e) $1.60

4. Three students each had a score of 90 on a test on which 2 other students each had a score of 80. What was the average score on the test for these 5 students?
(a) 83 (b) 84 (c) 85 (d) 86 (e) 87

Algebra I: Functions and Relations

K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Pre-Alg**	**Alg I**	**Geom**	**Alg II**	**MA**	**P & S**	**Pre-Cal**	**AP Cal**

							I	E	M						

District Objective

*Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour and 18 in. to 1.5 ft.).

**Critical to success in next course.*

PASS Process Standard
I A
II C
IV A, B, C, D
V A

Quarter
IV
No. Days
1

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

II. Functions and Relations

M. Solve routine two-step and three-step problems using concepts such as rate, distance, **ratio** and **proportion**, average and percent.

NCTM Standard
Pgs. 321-323
Pgs. 354-359

Text Correlation	**Rating**	**Additional Resources**
11.1	3	http://www.teachers.net/lessons/posts/481.html

Assessment

1. After the first two quarters at school, Buffy had an 87% average. What is the lowest average Buffy can have during the third quarter and still be able to have a 90% average for the year?

(a) 83 (b) 86 (c) 87 (d) 93 (e) 96

2. Rachel estimates the dimensions of her rectangular room by walking heel - to - toe between opposite walls. Rachel's shoes are each about 9 inches long, and she finds that the dimensions of her room are 14 shoe lengths by 20 shoe lengths (see figure below).

Which of the following is the closest estimate of the dimensions of her room in traditional feet (12 inches)?

(a) 126 by 180 (b) $18\frac{2}{3}$ by $26\frac{2}{3}$

(c) 14 by 20 *(d) $10\frac{1}{2}$ by 15

(e) 8 by 10

Algebra I: Functions and Relations

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

									I		M				

District Objective Solve word problems containing several rates, proportions, or percentages.	**PASS Process Standard** IV A, C V A	**Quarter** IV **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **II. Functions and Relations** M. Solve routine two-step and three-step problems using concepts such as rate, distance, **ratio** and **proportion**, average and percent.	**NCTM Standard** Pgs. 321-323 Pgs. 354-359

Text Correlation	**Rating**	**Additional Resources**
11.1, 11.2	3	River Crossing Activity

Assessment

1. The river Paix flows in the directions indicated by the arrows on the map to the right. If $\frac{5}{8}$ of the water flowing from channel A takes channel B, and $\frac{3}{5}$ of the water from channel B takes channel D, then what percentage of the water takes channel F?

(a) 25% (b) 33.3% (c) 37.5%
(d) 62.5% (e) 75%

2. Thomas wants to buy a $400 portable stereo by making a down payment of 25% of the price and then making 15 additional payments of $25 each. Using this method of payment, how much will he pay for the stereo?

(a) $400 (b) $425 (c) $450 (d) $475 (e) $500

Algebra I: Data Analysis, Statistics and Probability

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

							I	E	E	E	M				

District Objective

1. Create different graphical representations given a set of data (i.e., circle, frequency table).
2. Manipulate data.

PASS Process Standard
I A, B; II A
III C; V B, C

Quarter
IV
No. Days
1/2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...

IV. Data Analysis, Statistics and Probability

A. Translate from one representation of data to another and understand that data can be represented using a variety of tables, graphs, and symbols and that different modes of representation often convey different messages.

NCTM Standard
Pgs. 325-329
Pgs. 360-364

Text Correlation
6.6, 12.7

Rating
3

Additional Resources
McGuire, Sosa, or Griffey? Hit a Home Run with Your Students Activity; Trenches-How Deep Are They? Activity

Assessment

1. Mr. Sharifi drew the following frequency table on the chalkboard to show the distribution of grades on a test. What percent of the test grades were C or better?

(a) 24% (b) $33\frac{1}{3}\%$ (c) 60% (d) 75% *(e) 80%

Grade	Tally	Number
A	IIII I	6
B	IIII III	8
C	IIII IIII	10
D	IIII	4
F	II	2

2. Southwestern Bell Telephone Company surveyed 300 adults to find out why they rearranged furniture in their homes. Of the 300, 108 said they were bored with the current arrangement, 57 said they moved to a new home, 48 said they redecorated, 45 said they purchased new furniture, and 42 had other reasons. Make a circle graph to show these results.

SOLUTION: To begin, you need to find the percentage that each type of response was of the total number of responses.

Bored $\frac{108}{300} = 36\%$ Moved $\frac{57}{300} = 19\%$

Redecorated $\frac{48}{300} = 16\%$ New Furniture $\frac{45}{300} = 15\%$

Other $\frac{42}{300} = 14\%$

Next, you need to partition a circle into five sections corresponding to the five percentages. One way to do this is to divide the 360^o "angle" at the center of the circle into 36% of 360^o ($360 \cdot 0.36 \approx 130^o$), 19% of 360^o ($360 \cdot 0.19 \approx 68^o$), etc.

Algebra I: Data Analysis, Statistics and Probability

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

							I	E	E	E	M				

District Objective
Translate from one representation of data to another (e.g., a bar graph to a circle graph, etc.).

PASS Process Standard
I A, B; II A
III C; V B, C

Quarter
IV
No. Days
1/2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
IV. Data Analysis, Statistics and Probability
A. Translate from one representation of data to another and understand that data can be represented using a variety of tables, graphs, and symbols and that different modes of representation often convey different messages.

NCTM Standard
Pgs. 325-329

Text Correlation	**Rating**	**Additional Resources**
12.7	2	Internet; Snowfall Statistics for Snowboarding Activity

Assessment

1. The following bar graph and box - and - whisker plot represent the *same* data. Compare these two visual models.
ANSWER: The graph shows the frequency of each number, the plot shows the median and quantities.

2. Use the data to construct a box - and - whisker plot. What do you notice?

ANSWER: The data are skewed toward the lower end of the plot.

3. Construct a frequency bar graph using the same data.

4. Write a paragraph describing which plot you feel shows the data in a more understandable way.

Algebra I: Data Analysis, Statistics and Probability

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal

							I	E	E		M				

District Objective
Perform computations on data from tables and graphs (i.e., measures of central tendency).

PASS Process Standard
III A, B, C

Quarter
IV
No. Days
1-1/2

○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**

PASS Objective
The student will...
IV. Data Analysis, Statistics and Probability
C. Formulate and answer questions based on data shown on graphs, tables, charts; make valid inferences, predictions, and arguments.

NCTM Standard
Pgs. 325-329

Text Correlation	**Rating**	**Additional Resources**
12.7	3	Key Problem 1 Activity; Weather Plots Activity

Assessment

1. Contributions to a charity are made by each of 5 companies as indicated in the table below.

Company	A	B	C	D	E
Contribution in dollars	0	300	300	180	270

What is the average of the contributions made by the 5 companies?

(a) $187.50 *(b) $210.00 (c) $250.00 (d) $262.50 (e) $350.00

2. Kay's Applliance Repair Shop charges for labor according to the chart below. What is the charge for each additional 15 minutes of labor beyond the initial 30 minutes?

Minutes of Labor	1-30	31-45	46-60	61-75	76-90
Charge	$39.90	$49.35	$58.80	$68.25	$77.70

(a) $4.73 (b) $6.30 (c) $7.09 (d) $7.56 (e) $9.45

3. The circle graph shows the monthly outlays of the Jones family as percentages. If their monthly income is $5,000, how much money would the Joneses save each month if the electric and heating bills were reduced by 20%?

SOLUTION: 15% of $5,000 is $750; 20% of $750 equals $150.

								I	E	M					

District Objective Use Venn diagrams in counting.	**PASS Process Standard** III D	**Quarter** IV **No. Days** 1/2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **IV. Data Analysis, Statistics and Probability** A. Translate from one representation of data to another and understand that data can be represented using a variety of tables, graphs, and symbols and that different modes of representation often convey different messages.	**NCTM Standard** Pgs. 334-339

Text Correlation	**Rating**	**Additional Resources** Logic and Reasoning Activity

Assessment

At Highwood High School, 36 freshmen are taking woodworking, 25 freshmen are taking cooking, and 9 freshmen are taking both courses. There are 100 students in the freshmen class.

1. Draw the Venn diagram.
2. How many freshmen are taking only cooking? ANSWER: 16
3. How many freshmen are taking only woodworking? ANSWER: 27
4. How many freshmen are taking neither woodworking nor cooking? ANSWER: 48

Algebra I: Data Analysis, Statistics and Probability

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective Apply the definition of probability by computing the probability of a simple event.	**PASS Process Standard** III A, B, C	**Quarter** IV **No. Days** 1
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **IV. Data Analysis, Statistics and Probability** D. Solve problems involving the **probability** of an event and its complement.	**NCTM Standard** Pgs. 331-333

Text Correlation 11.4	**Rating** 2	**Additional Resources** Which Spinner Activity; Predicting With Playing Cards Activity

Assessment

1. You need to buy a new notebook at the school supply store. On the shelf, the store has 5 red notebooks, 4 blue ones, and 1 green one. If you select 1 of these notebooks at random, what is the probability that you select a blue notebook?

(a) $\frac{1}{4}$ *(b) $\frac{2}{5}$ (c) $\frac{4}{9}$ (d) $\frac{4}{5}$ (e) 1

2. Of the 50 people in a music store, 35 of them own a cassette tape player. If 1 of those people is randomly selected to win a cassette tape, what is the probability that the person chosen will already own a cassette tape player?

*(a) .70 (b) .65 (c) .35 (d) .30 (e) .15

Algebra I: Data Analysis, Statistics and Probability

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
								I	E		M				

District Objective Exhibit and apply knowledge of simple counting techniques.	**PASS Process Standard** III D	**Quarter** IV **No. Days** 1/2
○ **ITBS** ○ **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective
The student will...
IV. Data Analysis, Statistics and Probability
D. Solve problems involving the **probability** of an event and its complement.

NCTM Standard
Pgs. 331-333

Text Correlation	**Rating**	**Additional Resources**
		Tootsie Pop Pull-Probability Activity

Assessment

1. Rudi has 5 pairs of slacks, 6 blouses, and 2 sweaters in her closet. How many different outfits, composed of a pair of slacks, a blouse, and a sweater, can she choose from this closet?
(a) 2 (b) 6 (c) 13 (d) 32 *(e) 60

2. How many possible combinations of $1 and/or $5 bills could be in a cash register containing exactly $20, in $1 and/or $5 bills?
(a) 3 (b) 4 *(c) 5 (d) 10 (e) 20

3. A pizza shop offers 6 toppings on its pizzas. How many combinations of 2 toppings are possible?

Algebra I: Data Analysis, Statistics and Probability

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
							I	E	M						

District Objective Determine the probability of the complement of an event (chance not happening).	**PASS Process Standard** III A, B, C	**Quarter** IV **No. Days** 1/2
○ **ITBS** ● **CRT** ○ **EXPLORE** ● **EOI** ○ **PLAN** ● **ACT** ○ **AP**		

PASS Objective The student will... **IV. Data Analysis, Statistics and Probability** D. Solve problems involving the **probability** of an event and its complement.	**NCTM Standard** Pgs. 331-333

Text Correlation	**Rating**	**Additional Resources**
		Mrs. Glosser's Math Goodies - Lesson on the Complement of an Event Activities; Probability Activity

Assessment

If the probability that an event will happen is $\frac{5}{8}$, what is the probability that the event will NOT happen?

*(a) $\frac{3}{8}$

(b) $\frac{3}{5}$

(c) $\frac{5}{3}$

(d) $\frac{8}{5}$

(e) Cannot be determined from the given information.

Suggested Strategies / Activities