★ This summer assignment is intended to prepare you for the math course above.
★ You will find examples and video links to help you complete the practice.

Skill 1: Equations of Lines

Helpful Video Link:
➔ Determine the slope and y intercept from an equation in standard form
➔ Graphing a linear equation by rewriting from standard form to slope intercept form

Practice:

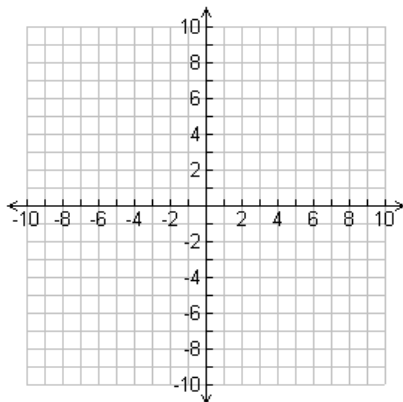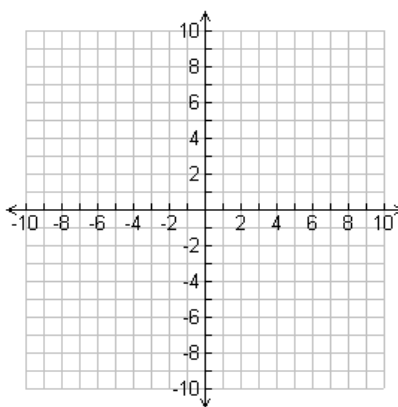| Identify the slope and y-intercept of each linear equation below. |
|---|

1) $y = \frac{1}{2}x - 5$	2) $3x + 4y = 12$	3) $y - 4 = 2(x - 5)$

Graph each of the following on the graph provided.

4) $y = 3x - 2$	5) $5x - 2y = 10$	6) $x = -2$
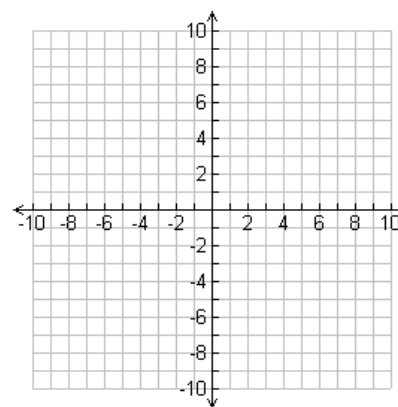
Skill 2: Solving Equations

Helpful Video Link:
➔ [Multi-Step Equations: Solving Proportions](#)

Practice: Solve the following equations for x.

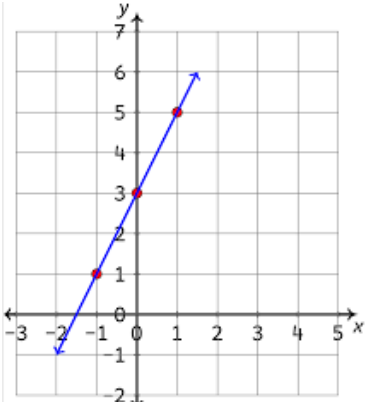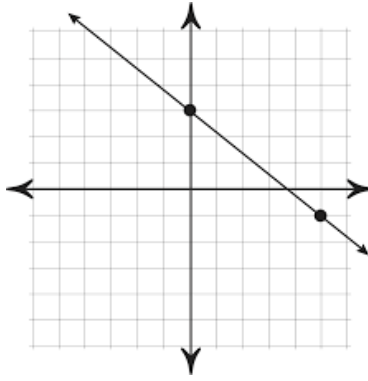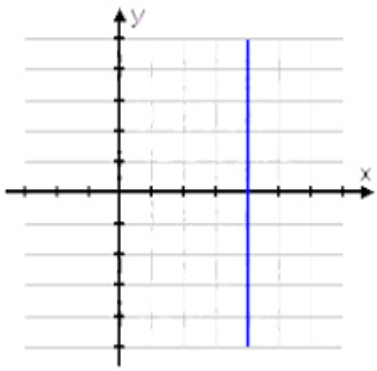|					
1)	$4x + 5 = 2x - 3$	2)	$3(2x - 4) = 4(x - 2)$	3)	$5x - 2 + 3x = 6 + 4x - 1$
4)	$\frac{4}{x} = \frac{2}{7}$	5)	$\frac{20}{x-10} = \frac{4}{5}$	6)	$\frac{x}{4} = \frac{16}{x}$

Skill 3: Parallel & Perpendicular Lines

Practice: For the problems below, identify the slope. Then identify the slope of a line that is parallel and the slope of a line that is perpendicular.

1)	$y = 6x - 1$		2)	$3x + 4y = 12$		3)	$y = 3$	
4)			5)			6)		

Skill 4: Radicals

Helpful Video Link:
- ➜ Simplifying Radical Expressions
- ➜ Learn how to subtract two radicals

Practice: Simplify the following radicals completely.

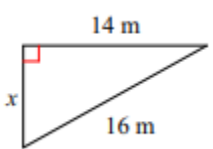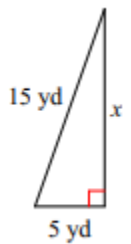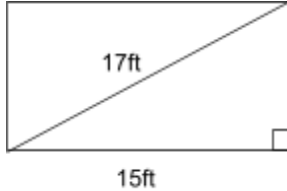| 1) $\sqrt{8}$	2) $\sqrt{48}$	3) $2\sqrt{45}$
4) $2\sqrt{6} + \sqrt{54}$	5) $2\sqrt{10} \cdot 3\sqrt{5}$	6) $\dfrac{5}{\sqrt{6}}$
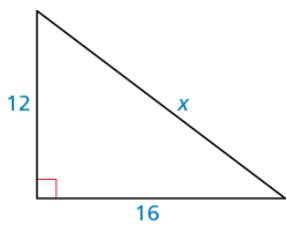
Skill 5: Pythagorean Theorem

Helpful Video Link:
- → Determine the sides of a triangle produce an acute, obtuse or right triangle
- → Finding the missing length of a triangle using pythagorean theorem

Practice:

Solve for x. Leave answers in simplest radical form.	
1) 12 x 16	2) y 5 10
3) 14 m x 16 m	4) 15 yd x 5 yd
5)	"c" is the hypotenuse of the right triangle ABC with sides a,b,c. Determine the measure of the missing side. a = 8, b = _____, c = 10
6)	A rectangle with a length of 15 feet has a diagonal that measures 17 feet. Find the perimeter of the rectangle. 17ft 15ft

Skill 6: Factoring

Practice:

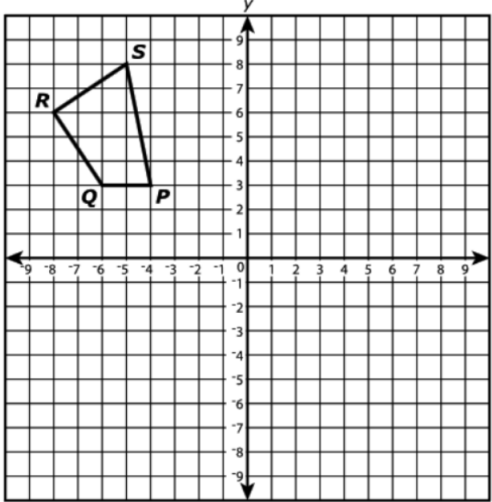| Factor the following expressions.		
1) $x^2 + 5x - 36$	2) $25x^2 - 49$	3) $2x^2 + 4x - 48$
Factor then solve the following expressions.		
4) $5x^2 - 10x = 0$	5) $x^2 - 2x - 3 = 0$	6) $2x^2 + 22x + 60 = 0$

Skill 7: Standardized Assessment Practice

★ The problems below are from different state tests. Please try each one.
★ If you have trouble, write a note or question to remind yourself where you stopped.
★ All problems should have work shown or a note/question.

1)	Determine the solution(s) of the equation $x^2 = 36$.
	Select **each** correct answer.
	
	    ❏ A. $x = -18$
	    ❏ B. $x = -6$
	    ❏ C. $x = -\sqrt{6}$
	    ❏ D. $x = \sqrt{6}$
	    ❏ E. $x = 6$
	    ❏ F. $x = 18$

2)	Which expression is equivalent to 5^3?
	Select **each** correct expression.
	
	    ❏ A. $5^7 \cdot 5^{-4}$
	    ❏ B. $\dfrac{5^1 2}{5^4}$
	    ❏ C. $5 + 5^2$
	    ❏ D. $5^0 \cdot 5^3$
	    ❏ E. $5^3 - 5^0$

3)	Polygon $KLMN$ is the image of polygon $PQRS$ after a 180° rotation.
	Which angle of polygon $KLMN$ is congruent to $\angle S$?
	
	    A. $\angle K$
	    B. $\angle L$
	    C. $\angle M$
	    D. $\angle N$

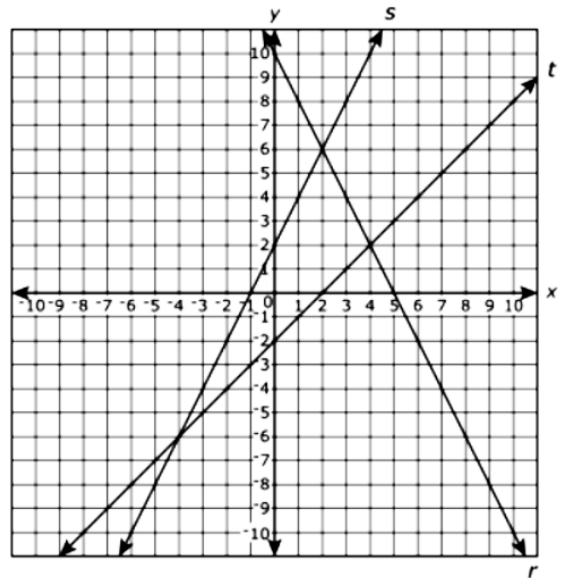**4)** Lines r, s, and t are shown on the coordinate plane. Each pair represents a system of equations.

Complete the table with the ordered pair representing the solution to each system of equations.

Solution Bank:

(−6,−4)   (−4,−6)   (2,4)

(2,6)   (4,2)   (6,2)

Solutions to System of Equations

r and s	s and t	r and t

5) Function A is defined by the equation $y = -\dfrac{2}{3}x + 1$. Which graph is the graph of function A?

A.

C.

B.

D.