



Math Summer Assignment for
Geometry CP
Wall Township Math Department
Optional Summer Assignment



- ★ 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.

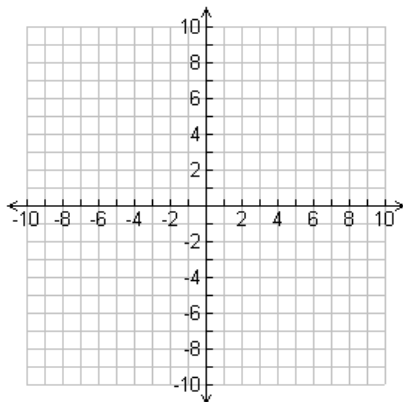
1) $y = \frac{1}{2}x - 5$

2) $3x + 4y = 12$

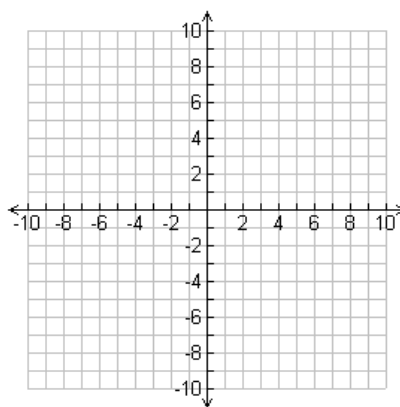
3) $y - 4 = 2(x - 5)$

Graph each of the following on the graph provided.

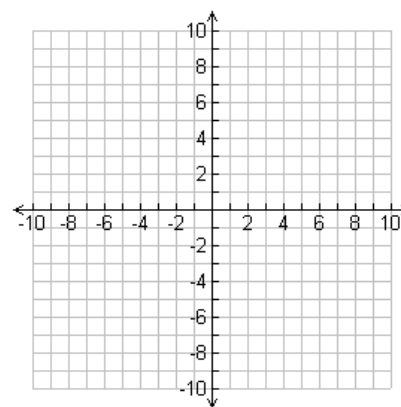
4) $y = 3x - 2$



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



Helpful Video Link:

- The symbol for parallel is \parallel
- The symbol for perpendicular is \perp
- [Finding Slopes of Parallel and Perpendicular Lines \(and Graphing\)!](#)

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)	$\frac{5}{\sqrt{6}}$

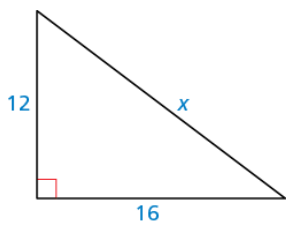
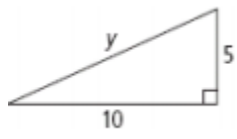
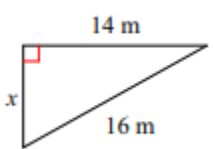
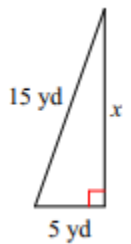
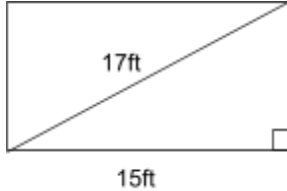
Skill 5: Pythagorean Theorem



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)		2)	
3)		4)	
5)	<p>"c" is the hypotenuse of the right triangle ABC with sides a,b,c. Determine the measure of the missing side.</p> <p>a = 8, b = _____, c = 10</p>		
6)	<p>A rectangle with a length of 15 feet has a diagonal that measures 17 feet. Find the perimeter of the rectangle.</p> 		

Skill 6: Factoring



Helpful Video Link:

→ [How To Solve Quadratic Equations By 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.

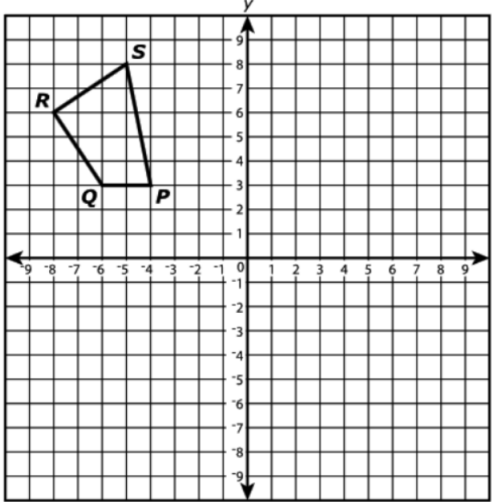
4) $5x^2 - 10x = 0$

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)	<p>Determine the solution(s) of the equation $x^2 = 36$. Select each correct answer.</p> <ul style="list-style-type: none"><input type="checkbox"/> A. $x = -18$<input type="checkbox"/> B. $x = -6$<input type="checkbox"/> C. $x = -\sqrt{6}$<input type="checkbox"/> D. $x = \sqrt{6}$<input type="checkbox"/> E. $x = 6$<input type="checkbox"/> F. $x = 18$
2)	<p>Which expression is equivalent to 5^3? Select each correct expression.</p> <ul style="list-style-type: none"><input type="checkbox"/> A. $5^7 \cdot 5^{-4}$<input type="checkbox"/> B. $\frac{5^{12}}{5^4}$<input type="checkbox"/> C. $5 + 5^2$<input type="checkbox"/> D. $5^0 \cdot 5^3$<input type="checkbox"/> E. $5^3 - 5^0$
3)	<p>Polygon $KLMN$ is the image of polygon $PQRS$ after a 180° rotation. Which angle of polygon $KLMN$ is congruent to $\angle S$?</p> <ul style="list-style-type: none">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.

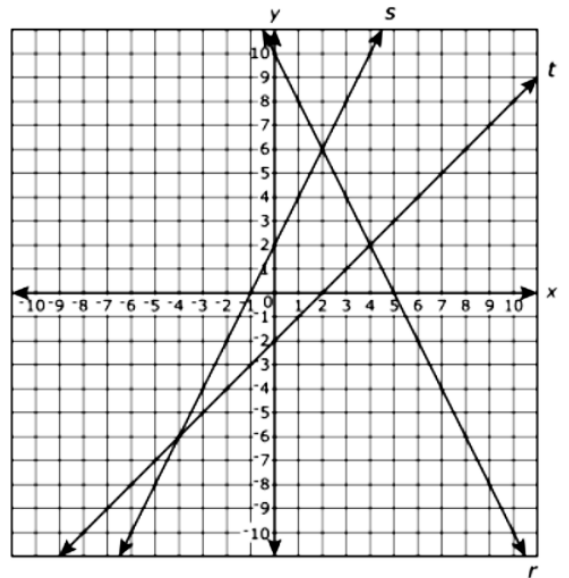
Complete the table with the ordered pair representing the solution to each system of equations.

Solution Bank:

-

Solutions to System of Equations

r and s	s and t	r and t



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

