

# MasterMath

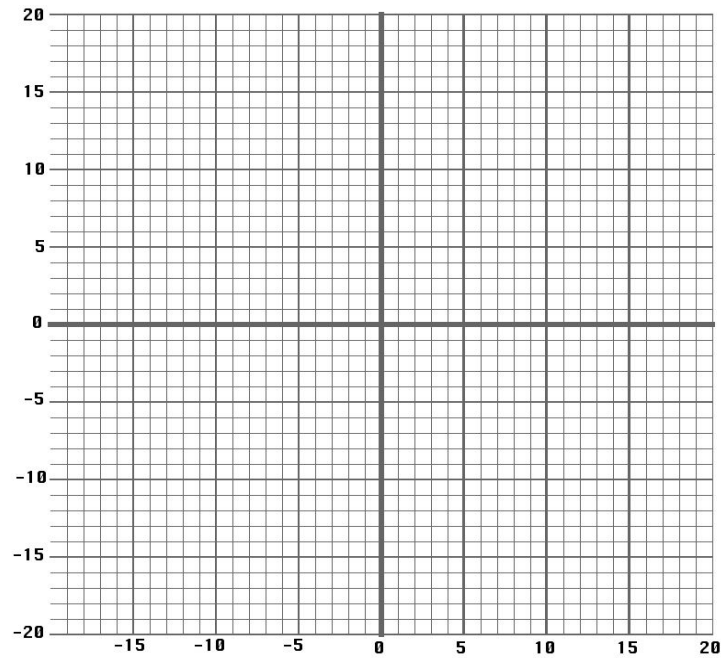
Name \_\_\_\_\_

Algebra 1 4th Quarter Assessment

Date \_\_\_\_\_

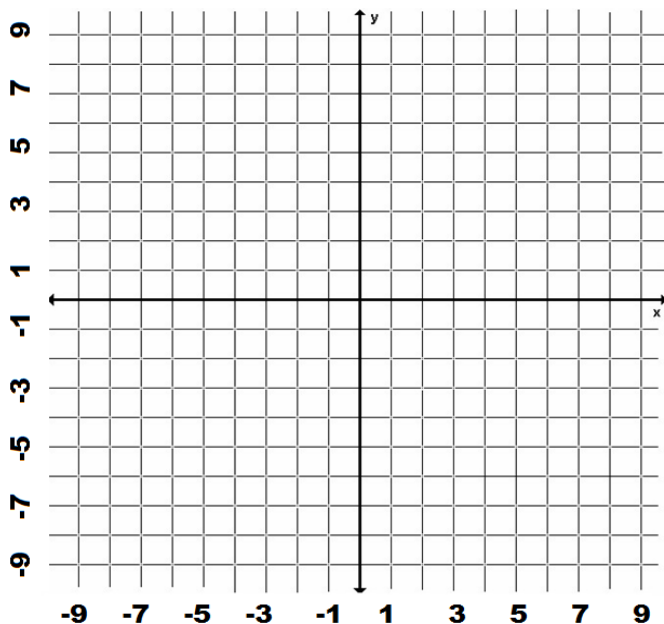
**Closed Book; 45 minutes to complete**  
**CUCC; You may use a calculator.**

1. Please graph this equation:  $y = -x^2 + 2x + 5$ . Use  $x = 5$  for your fourth point.



2. What are the coordinates of the y intercept of this equation:  $y = 3x^2 - 4x - 6$

3. Solve by graphing:  $x^2 + 2x = 3$



4. Solve these equations:

Equation	x =
$3x^2 - 3 = 0$	
$2x^2 - 42 = 8$	
$2x^2 + 13 = 11$	
$x^2 + 8 = 3$	
Equation	x =
$(x - 7)^2 = 6$	
$\frac{1}{2}(x - 8)^2 = 3$	
$5(x - 2)^2 = 70$	

5. Solve these equations. Round your answer to the nearest hundredth.

6. Find the value of x. Round your answer to the nearest hundredth if necessary.

x =	
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**Area =**  
**288 sq in**  
 **$(2x + 10)^2$**   
**3x"**

7. Solve for x. If necessary, round your answers to the nearest hundredth.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Equation	x =	x =
$x^2 + 3x - 12 = 0$		
$3x^2 + 12 = 5x$		
$4x - 2x^2 + 6 = 0$		
$x^2 + 5x - 5 = 0$		

8. This data describes what type of function: linear, exponential, or quadratic?

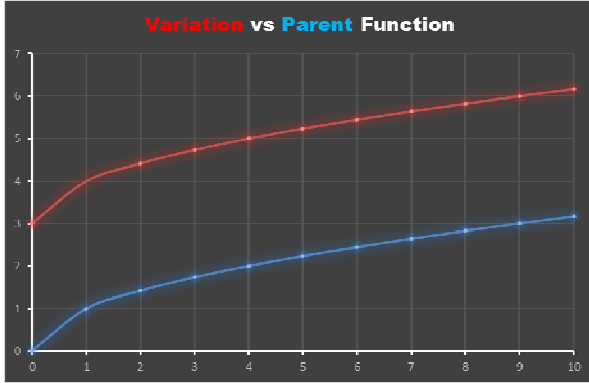
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x	y
-2	1.25
-1	2.5
0	5
1	10
2	20
3	40

9. Write an equation to describe the relationship shown in the table above.

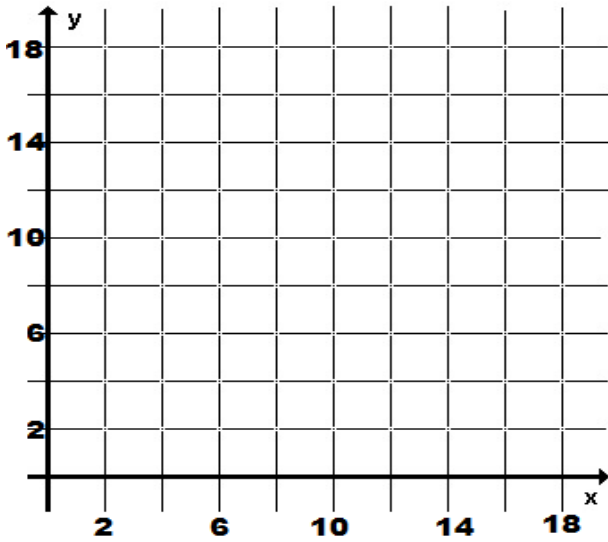
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10. Which of these equations could be represented by the red graph?



- a.  $y = .5\sqrt{x + 1}$
- b.  $y = \sqrt{x + 3}$
- c.  $y = 3\sqrt{x + 3}$
- d.  $y = \sqrt{(x + 4) + 4}$

11. Graph The Parent Square Root Function and  $y = 2\sqrt{(x + 1)}$ .



12. Simplify these Expressions

Expression	Simplified
$\sqrt{60y^2}$	
$\sqrt{126r^2}$	
$(2\sqrt{15})/(\sqrt{12})$	
$\sqrt{(\frac{1}{4}x^3)}$	
$3/(\sqrt{8})$	
$\sqrt{6(7\sqrt{3} + 6)}$	

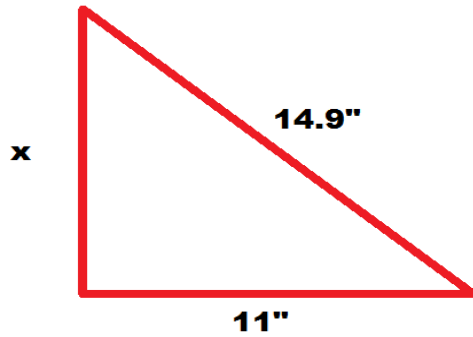
13.  $\frac{2\sqrt{6}}{\sqrt{30}} - \frac{3}{\sqrt{20}}$



14. Determine the missing dimension on these right triangles

side 1	side 2	hypotenuse
11'	3'	
7 mm		12 mm

15. Find x



16.

Find the distance between these points:  
If necessary, round your answers to the nearest 100th.

Point 1	Point 2	Distance
(3, 4)	(5, 6)	
(-1, 3)	(5, 2)	

17. Find the midpoint of the line between these points:

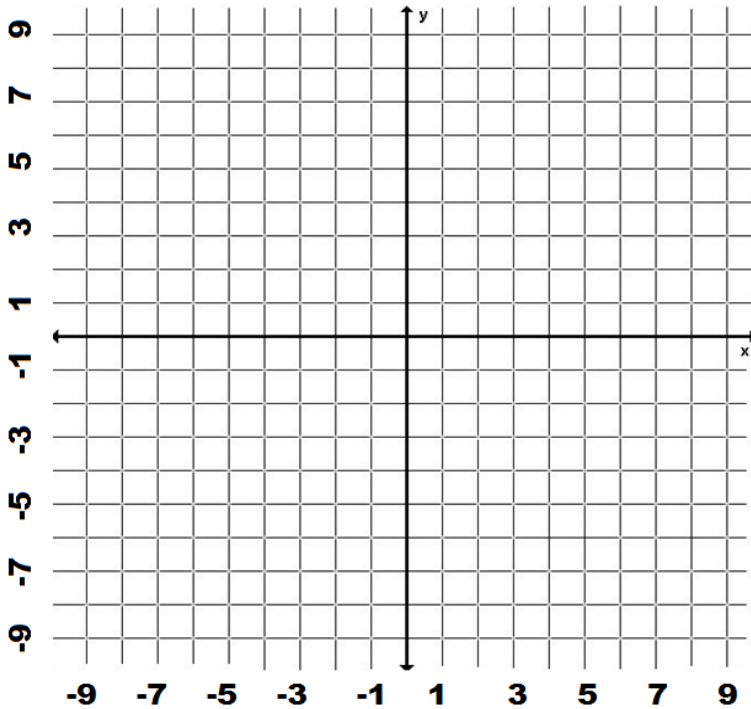
Point 1	Point 2	Midpoint
(3, 4)	(5, 6)	
(-1, 3)	(5, 2)	

18. Graph the function:

$$y = \frac{-2}{x - 2}$$

Be sure to draw the  
Asymptotes

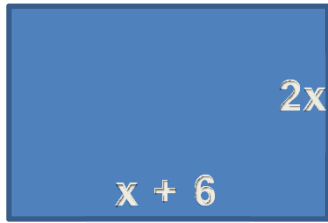
x	y



19. Use Synthetic Division to find the quotient:

$$(2x^3 - 4x - 8) \div (x - 2)$$

20. Write and simplify a rational expression for the ratio of the perimeter

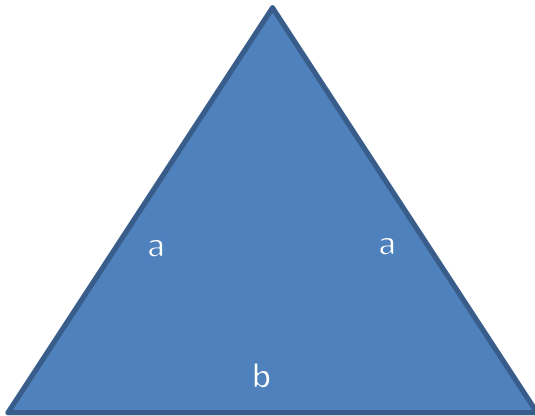



21. Find the sum, in simplest form.

$$\frac{2c}{c^2 - 1} + \frac{c - 1}{c^2 - 7c + 6}$$

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22. What is the perimeter of this triangle?



$$a = \frac{12}{3x + 3}$$

$$b = \frac{2x}{x + 1}$$

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23.

Solve for x using Cross Products. There may be either one or two solutions. Check for extraneous solutions and eliminate them.

$$\frac{2x}{5} + \frac{1}{2} = \frac{3}{4}$$

x =	
x =	

24. Solve for w using LCD. There may be either one or two solutions.

Check for extraneous solutions and eliminate them.

$$\frac{5}{w + 4} = \frac{w}{w - 3} + \frac{2w - 27}{w^2 + w - 12}$$

w =	
w =	