MasterMath

Algebra 1 4th Quarter Assessment

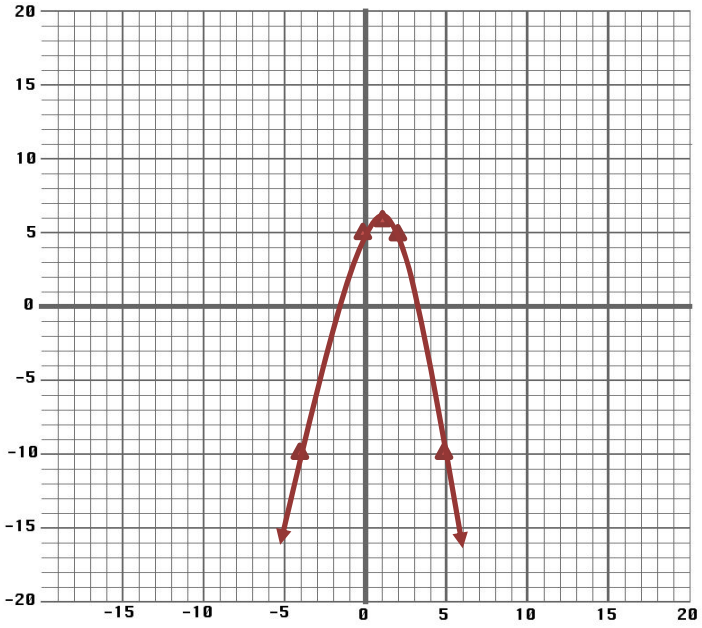
Name _____

Date _____

Closed Book; 45 minutes to complete

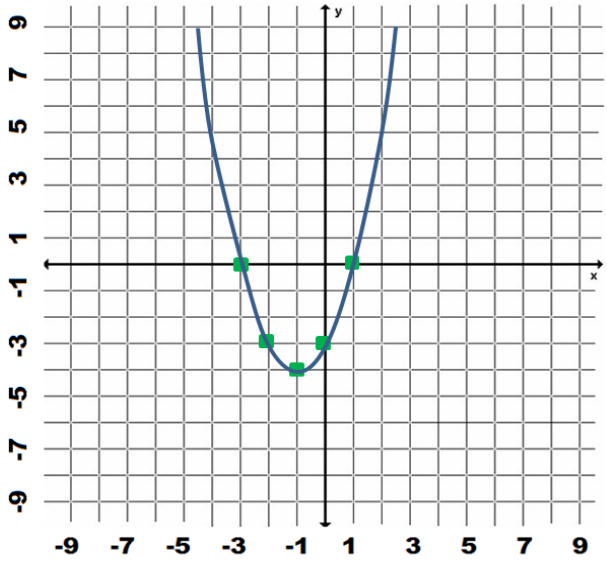
CUCC; You may use a calculator.

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



2. **What are the coordinates of the y intercept of this** **(0, -6)**

3. **Solve by graphing: $x^2 + 2x = 3$** **x = 1 or -3**



4. **Solve these equations:**

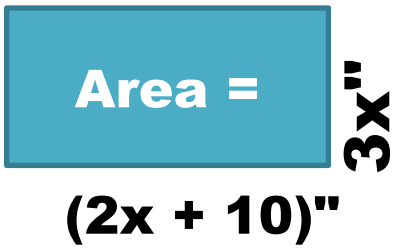
Equation	x =
$3x^2 - 3 = 0$	±1
$2x^2 - 42 = 8$	±5
$2x^2 + 13 = 11$	no solution
$x^2 + 8 = 3$	no solution

5. **Solve these equations. Round your answer**

Equation	x =	
$(x - 7)^2 = 6$	9.45	4.55
$\frac{1}{2}(x - 8)^2 = 3$	10.45	5.55
$5(x - 2)^2 = 70$	5.74	-1.74

6. **Find the value of x. Round your answer to the nearest**

x =	4.87"



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 =
$x^2 + 3x - 12 = 0$	2.27	-5.28
$3x^2 + 12 = 5x$	no solutions	
$4x - 2x^2 + 6 = 0$	-1.00	3.00
$x^2 + 5x - 5 = 0$	.85	-5.85

8. **This data describes what type of function: linear,**

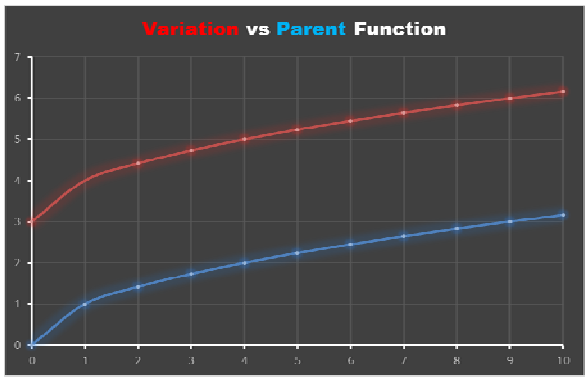
exponential

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**

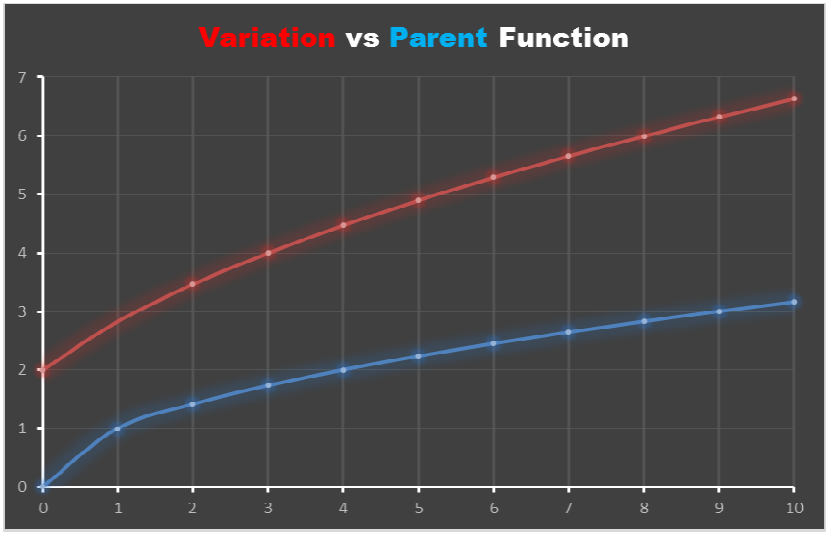
$y = 5(2)^x$

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
$\sqrt{(60y^2)}$	$2y\sqrt{15}$
$\sqrt{(126r^2)}$	$3r\sqrt{14}$
$(2\sqrt{15})/(\sqrt{12})$	$\sqrt{5}$
$\sqrt{(¼x^3)}$	$½x\sqrt{x}$
$3/(\sqrt{8})$	$¾\sqrt{2}$
$\sqrt{6}(7\sqrt{3} + 6)$	$21\sqrt{2} + 6\sqrt{6}$

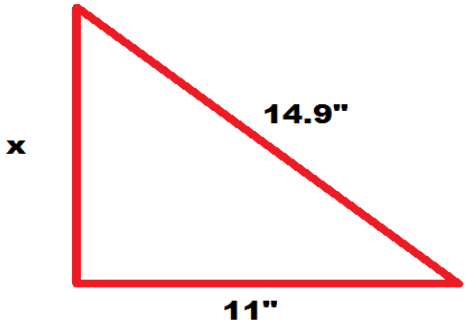
13. $\dfrac{2\sqrt{6}}{\sqrt{30}} - \dfrac{3}{\sqrt{20}}$

$\dfrac{\sqrt{5}}{10}$

14. Determine the missing dimension on these right triangles

side 1	side 2	hypotenuse
11'	3'	
7 mm		12 mm
		10"

15. Find x



16. Find the distance between these points: If necessary, round your answers to the

Point 1	Point 2	Distance
(3, 4)	(5, 6)	2.83
(-1, 3)	(5, 2)	6.08

17. **Find the midpoint of the line between**

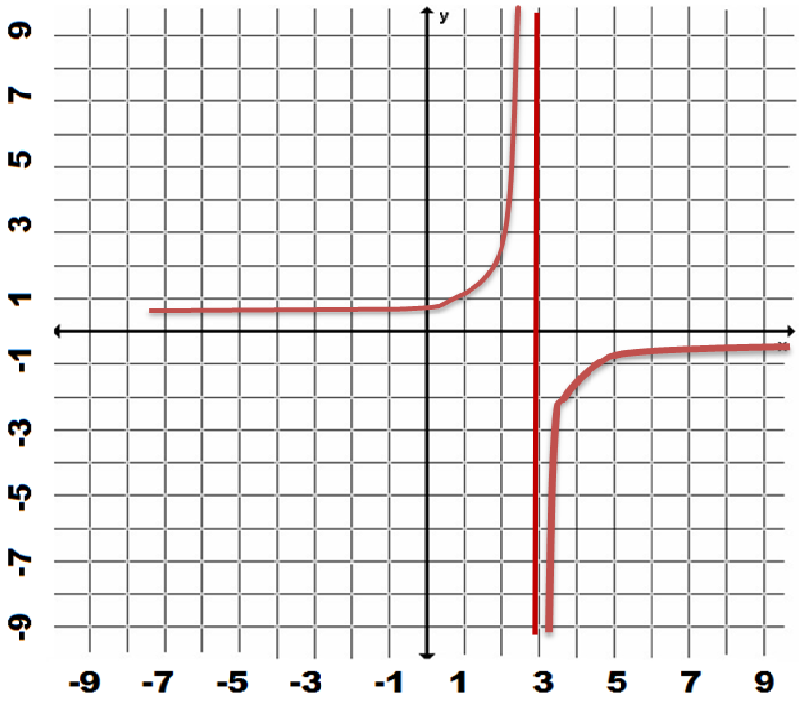
Point 1	Point 2	Midpoint
(3, 4)	(5, 6)	(4, 5)
(-1, 3)	(5, 2)	(2, 2.5)

18. **Graph the function:**

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

Be sure to draw the Asymptotes

x	y
0.0	1.0
1.0	2.0
1.5	4.0
2.0	#DIV/0!
3.0	-2.0
4.0	-1.0
5.0	-0.7



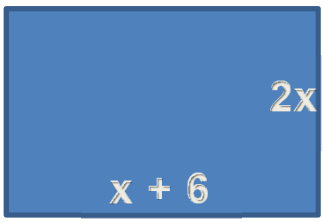
19. **Use Synthetic Division to find the quotient:**

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

2	0	-4	-8
	4	8	8
2	4	4	0

$2x^2 + 4x + 4$

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



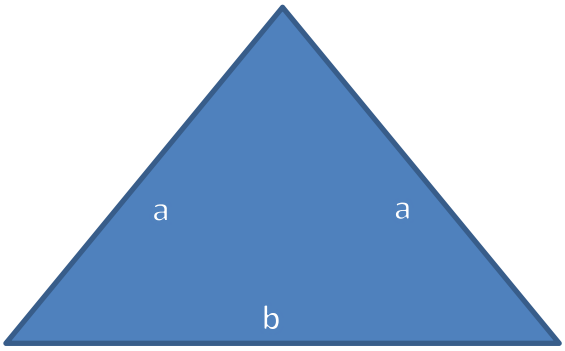
3(x + 2)
x(x + 6)

21. **Find the sum, in simplest form.**

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

$$\frac{3c^2 - 12c - 1}{(c + 1)(c - 1)(c - 6)}$$

22. What is the perimeter of this triangle?



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

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

$$\frac{2(x + 4)}{x + 1}$$

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 =	$\frac{5}{8}$
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 =	~~-4~~
w =	~~3~~