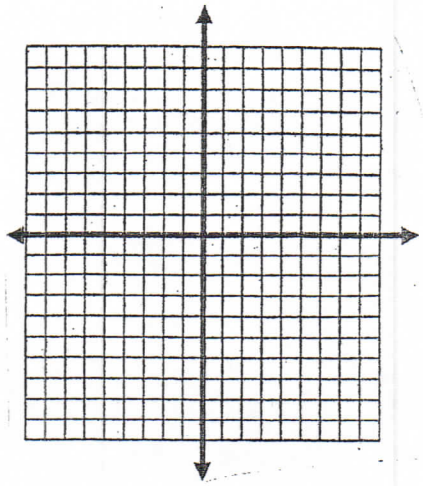
Algebra 1 Quiz 2.14.14

Version A

Quadratic Killa _____

period _____

1) **Simplify:** $\sqrt{4+3\cdot 7}-12-3^2$



2) **Graph the quadratic** $y = 2x^2 + 8x + 5$

3) **Solve** $\frac{1}{2}x - 5 = \frac{2}{3}$

4) **Solve the system of linear equations**

$$2x + y = 9$$
$$3x - y = 16$$

5) **Area Question:** A rectangle garden has a ***length*** of $2x$ feet and a ***width*** of $(x + 8)$ feet. The ***area*** if the garden is 56 square feet (hint: **Area** = ***length*** · ***width***).

   a. Find the value of x

   b. What are the dimensions of the garden

6) **Solve by factoring or quadratic formula** $2x^2 - 14x + 24 = 0$

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Version A

Quadratic Killa Key

period__________

1) **Simplify:** $\sqrt{4+3\cdot 7} - 12 - 3^2$

$\sqrt{4+21}$

$\sqrt{25} - 12 - 9$

$5 - 12 - 9$

$-7 - 9 =$

-16

2) **Graph the quadratic** $y = 2x^2 + 8x + 5$

$x = \frac{-b}{2a} \rightarrow x = \frac{-8}{2(2)} \rightarrow x = -2$

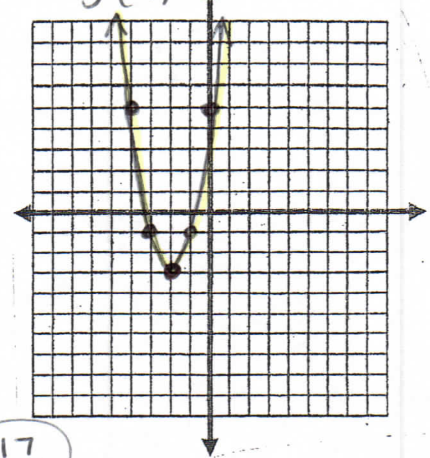
$y = 2(-2)^2 + 8(-2) + 5 \rightarrow y = 2(4) - 16 + 5 \rightarrow y = 8 - 16 + 5$

$y = -3$ vertex: $(-2, -3)$

1(a) = 2

3(a) = 6

5(a) = 10



3) **Solve** $\frac{1}{2}x - 5 = \frac{2}{3}$

$+5 \quad +\frac{5}{1}$

$\frac{2}{3} + \frac{5\cdot 3}{1\cdot 3} \rightarrow \frac{2}{3} + \frac{15}{3} = \frac{17}{3}$

$\left(\frac{2}{1}\right)\frac{1}{2}x = \frac{17}{3}\left(\frac{2}{1}\right)$

$x = \frac{34}{3}$ or $11\frac{1}{3}$ or $11.\overline{3}$

4) **Solve the system of linear equations**

$2x + y = 9$

$+ \; 3x - y = 16$

$5x = 25$

$\frac{5x}{5} = \frac{25}{5}$

$x = 5$

$2x + y = 9$

$2(5) + y = 9$

$10 + y = 9$

$-10 \quad -10$

$y = -1$

$(5, -1)$

5) **Area Question:** A rectangle garden has a *length* of 2*x* feet and a *width* of (*x* + 8) feet. The *area* if the garden is 56 square feet (hint: **Area** = ***length · width***).

a. Find the value of *x*

b. What are the dimensions of the garden

$A = l \cdot w$

$56 = (2x)(x+8)$

$56 = 2x^2 + 16x$

$-56 \quad -56$

$0 = 2x^2 + 16x - 56$

$0 = 2(x^2 + 8x - 28)$

does not factor

a = 1

b = 8

c = −28

−28, 8

$x = \frac{-16 \pm \sqrt{(16)^2 - 4(2)(-56)}}{2(2)}$

$x = \frac{-16 \pm 26.53}{4}$

$x = 2.6$

length = 2(2.6) =

length = 5.2

width = 10.6

6) **Solve by factoring or quadratic formula** $2x^2 - 14x + 24 = 0$

$2(x^2 - 7x + 12) = 0$

$2(x-4)(x-3) = 0$

a = 1

b = −7

c = 12

12, −4, −3, −7

$x - 4 = 0$ and $x - 3 = 0$

$+4 \quad +4 \qquad +3 \quad +3$

$x = 4$ and $x = 3$