Algebra 1 Quiz 2.28.14

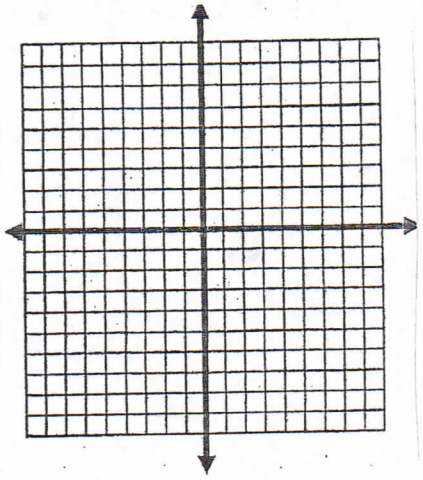
Version A

Radical Dude/Dudette_____

period_____

1) Simplify: $\sqrt{2} - \sqrt{32}$

2) Graph the quadratic $y = 2x^2 - 2x + 3$



3) Solve $3x - 12 = 2(x - 8)$

4) Solve the system of linear equations

$$2x + y = 13$$
$$y = 5$$

5) Area Question: A rectangle garden has a ***length*** of $3x$ feet and a ***width*** of $(x + 9)$ feet. The ***area*** if the garden is 48 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 $-3x^2 - 6x + 24 = 0$

Algebra 1 Quiz 2.28.14

Version A

Radical Dude/Dudette Key

period

1) Simplify: $\sqrt{2} - \sqrt{32}$ $\sqrt{16}\cdot\sqrt{2} = 4\sqrt{2}$

$\sqrt{2} - 4\sqrt{2} = \boxed{-3\sqrt{2}}$

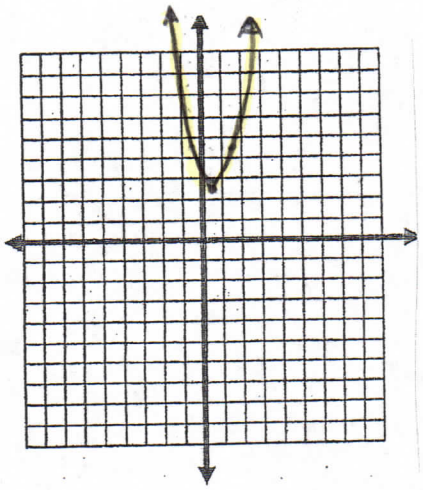
2) Graph the quadratic $y = 2x^2 - 2x + 3$

① $x = \frac{-b}{2a}$ $x = \frac{-(-2)}{2(2)}$ $x = 0.5$

② $y = 2(0.5)^2 - 2(0.5) + 3 \rightarrow y = 2(0.25) - 1 + 3$

$y = 0.5 - 1 + 3$ $y = 2.5$

③ $1(2) = 2$, $3(2) = 6$, $5(2) = 10$



3) Solve $3x - 12 = 2(x - 8)$

$3x - 12 = 2(x-8)$

$3x - 12 = 2x - 16$

$-2x \quad -2x$

$x - 12 = -16$

$+12 \quad +12$

$\boxed{x = -4}$

4) Solve the system of linear equations

$2x + y = 13$

$y = 5$

$y = 5$

$2x + (5) = 13$

$-5 \quad -5$

$2x = 8$

$\frac{2x}{2} = \frac{8}{2}$

$x = 4$

Solution

$\boxed{(4, 5)}$

5) Area Question: A rectangle garden has a ***length*** of $3x$ feet and a ***width*** of $(x + 9)$ feet. The ***area*** if the garden is 48 square feet (hint: **Area = *length* · *width***).

a. Find the value of x

b. What are the dimensions of the garden

$A = l \cdot w \rightarrow 48 = 3x(x+9)$

$48 = 3x^2 + 27x$

$-48 \quad -48$

$0 = 3x^2 + 27 - 48$

$a = 3$, $b = 27$, $c = -48$

$x = \frac{-(27) \pm \sqrt{(27)^2 - 4(3)(-48)}}{2(3)}$

$\sqrt{729 + 576} = 36.1$

$x = \frac{-27 \pm 36.1}{6}$

$\boxed{x = 1.5}$ $x = -10.5$

Length $= 3x$

$= 3(1.5)$

$\boxed{\text{Length} = 4.5 \text{ feet}}$

width $= x + 9$

$= 1.5 + 9$

$\boxed{\text{width} = 10.5 \text{ feet}}$

6) Solve by factoring or quadratic formula $-3x^2 - 6x + 24 = 0$

$-3(x^2 + 2x - 8) = 0$

$a = 1$, $b = 2$, $c = -8$

-8: $+4$ and -2; $+4 - 2 = 2$

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

$x + 4 = 0$ and $x - 2 = 0$

$-4 \quad -4$ $+2 \quad +2$

$\boxed{x = -4 \text{ and } x = 2}$