

NAME: Key

PRE-ASSESSMENT (ALL REVIEW)



1. What is the vertex of the function

$$y = -4x^2 - 8x + 3$$

$$\frac{-b}{2a} = \frac{8}{2(-4)} = -1 \quad \boxed{(-1, 7)}$$

$$\begin{aligned} & -4(-1)^2 - 8(-1) + 3 \\ & -4 + 8 + 3 = 7 \end{aligned}$$

2. Use the Quadratic Formula to solve:

$$y = -5x^2 + 3x - 4$$

$$x = \frac{-3 \pm \sqrt{(3)^2 + 4(-5)(-4)}}{2(-5)}$$

$$x = \frac{-3 \pm \sqrt{9 + 80}}{-10}$$

$$x = \frac{-3 \pm \sqrt{89}}{-10} \quad \begin{aligned} x &= -0.643 \\ x &= 1.243 \end{aligned}$$

$$x = \frac{-3 \pm 9.43}{-10}$$

3. Find the Discriminant and State the Number of Solutions:

$$y = -2x^2 - 5x + 12$$

$$(-5)^2 + 4(-2)(12)$$

$$25 + 96$$

$$121$$

2 SOLS

4. Simplify  $x\sqrt{x^5y^3}$

$$x^3y\sqrt{xy}$$

5. Simplify:  $\sqrt{\frac{3}{7}}$

$$\frac{\sqrt{3}}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \boxed{\frac{\sqrt{21}}{7}}$$

6. Solve for x:  $(\sqrt{4x+5})^2 - (12)^2$

$$4x + 5 = 144$$

$$\frac{4x}{4} = \frac{139}{4}$$

$$\boxed{x = 34.75}$$

7. Solve for x:

$$4^2 + 12^2 = x^2$$

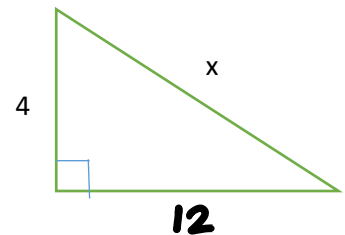
$$16 + 144 = x^2$$

$$\sqrt{160} = x^2$$

$$16 \hat{=} 10$$

$$4 \hat{=} 4 \quad 25$$

$$4\sqrt{10} = x$$



8. Describe the transformation:

$$y = \sqrt{-x}$$

reflect over y-axis

9. Create a Quantitative (Numerical) Variable Example:

12. Find the mode and the mean given the Stem and Leaf Plot:

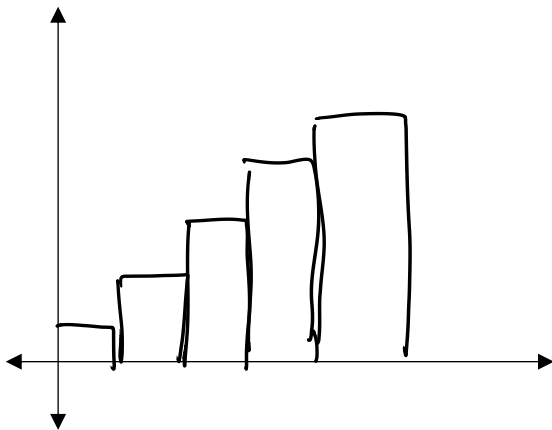
Life Expectancy by Country

Stem	Leaf
5	1
6	4 8
7	3 4 5 5 7
8	2

Key: 7|3 = 73

mode: 75  
 mean:  $\frac{639}{9}$   
 mean: 71

10. Draw an example of a skewed left histogram distribution:



13. If you roll a die 10 times, how many times do you expect to roll a 3?

$\frac{1}{6} \times 10$   
 about 1-2 times

11. Find the median given the Stem and Leaf Plot:

Land Area of US States (km<sup>2</sup>)

Stem	Leaf
0	<del>8</del> <del>8</del>
1	<del>1</del> <del>2</del> <b>3</b> <del>4</del>
2	<del>1</del> <del>8</del>
3	<del>8</del>

**13**