

Review for Test #13 - Answer Key

$$\textcircled{1} -2x^3y(-4xy^4)$$
$$-2(-4)(x^3)(x)(y)(y^4)$$
$$\boxed{8x^4y^5}$$

$$\textcircled{2} P = 4L + 3W$$
$$\begin{array}{r} -4L \quad -4L \\ \hline P - 4L = 3W \\ \hline \frac{P - 4L}{3} = \frac{3W}{3} \end{array}$$

$$\boxed{\frac{P - 4L}{3} = W}$$

$$\textcircled{3} (2, 110) (4, 180)$$
$$\frac{180 - 110}{4 - 2} = \frac{70}{2} = 35 \text{ mph}$$

$$(8, 350) (10, 390)$$

$$\frac{390 - 350}{10 - 8} = \frac{40}{2} = 20 \text{ mph}$$

The family was traveling 15 mph faster during the 2-4 hour time frame.

$$\textcircled{4} \text{ Let } x = \text{youngest}$$

$$x + 1 = \text{2nd}$$

$$x + 2 = \text{3rd}$$

$$x + 3 = \text{oldest}$$

$$x + x + 1 + x + 2 + x + 3 = 38$$

$$4x + 6 = 38$$

$$4x = 32$$

$$x = 6$$

If $x = 6$ then the oldest sister is 9 years old.

$$\textcircled{5} m = \frac{21 - 16}{4 - 7} = \frac{5}{-3}$$

$$m = \frac{16 - 11}{7 - 10} = \frac{5}{-3}$$

$$m = \frac{11 - 6}{10 - 13} = \frac{5}{-3}$$

Yes this is linear.

There is a constant rate of change. (slope)

$$\textcircled{6} ab - b^3$$
$$5(-2) - (-2)^3$$
$$-10 - (-2)(-2)(-2)$$
$$-10 - (4)(-2)$$
$$-10 - (-8)$$
$$-10 + 8$$

$$\boxed{-2}$$

$\textcircled{7}$ An irrational number is BOTH Never Ending AND Never Repeating.

Examples:

$$\sqrt{7}, \sqrt{3.4}, \pi$$

$$\textcircled{8} f(x) = x^2 + 2x$$

$$f(-3) = (-3)^2 + 2(-3)$$

$$f(-3) = 9 - 6$$

$$f(-3) = 3$$

$$\textcircled{9} \begin{array}{r} 3x - 5y = 16 \\ x + 5y = 4 \\ \hline 4x = 20 \\ \boxed{x = 5} \end{array}$$

$$3(5) - 5y = 16$$

$$\begin{array}{r} 15 - 5y = 16 \\ -15 \quad -15 \\ \hline -5y = 1 \\ \frac{-5}{-5} \quad \frac{-5}{-5} \\ \boxed{y = -0.2} \end{array}$$

$$\boxed{(5, -0.2)}$$

$$\textcircled{10} 3(x-2) = 36 - 4x$$

$$\begin{array}{r} 3x - 6 = 36 - 4x \\ +4x \quad \quad +4x \\ \hline 7x - 6 = 36 \\ \quad +6 \quad +6 \\ \hline 7x = 42 \\ \frac{7}{7} \quad \frac{42}{7} \\ \boxed{x = 6} \end{array}$$

$$\textcircled{11} C(x) = 55x + 750$$

$$\textcircled{12} (3x^2 + 5x - 2) - (7x^2 + 9x + 7)$$

$$3x^2 + 5x - 2 - 7x^2 - 9x - 7$$

$$3x^2 - 7x^2 + 5x - 9x - 2 - 7$$

$$\boxed{-4x^2 - 4x - 9}$$

$$\textcircled{13} \begin{array}{r} 4y > -8x + 12 \\ \frac{4}{4} \quad \quad \frac{4}{4} \\ \hline \boxed{y > -2x + 3} \end{array}$$

$$x - y \geq 2$$

$$\begin{array}{r} -x \quad -x \\ \hline -y \geq -x + 2 \\ \frac{-1}{-1} \quad \frac{-1}{-1} \\ \hline \boxed{y \leq x - 2} \end{array}$$

$$\textcircled{14} \begin{array}{c|c} x & y \\ \hline -5 & -1 \\ -4 & 0 \\ -3 & 1 \\ \hline -2 & 2 \\ \hline -2 & 2 \\ \hline -1 & -1 \\ 0 & -2 \\ 1 & -1 \\ 2 & 2 \end{array}$$

Not Equal

See Graph

$$\textcircled{15} \begin{array}{r} 2x - 4 > 12 \\ \quad +4 \quad +4 \\ \hline 2x > 16 \\ \frac{2}{2} \quad \frac{16}{2} \\ \hline \boxed{x > 8} \end{array}$$

$$x + 4 \leq 7$$

$$\begin{array}{r} -4 \quad -4 \\ \hline \boxed{x \leq 3} \end{array}$$

See Graph

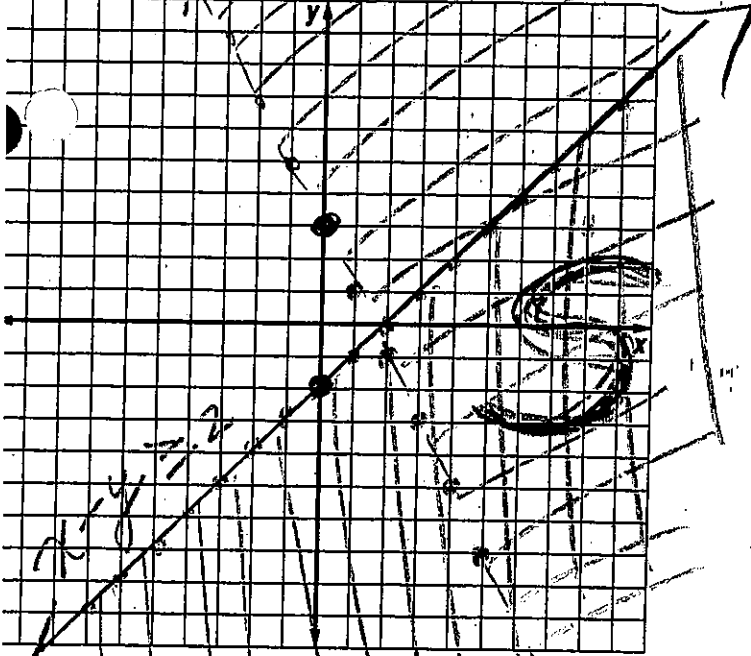
$$\boxed{(8, 3)}$$

only one of MANY Possibilities

$$\textcircled{16} \begin{array}{r} y + x < 3 \\ -x \quad -x \\ \hline y < -x + 3 \end{array}$$

See Graph

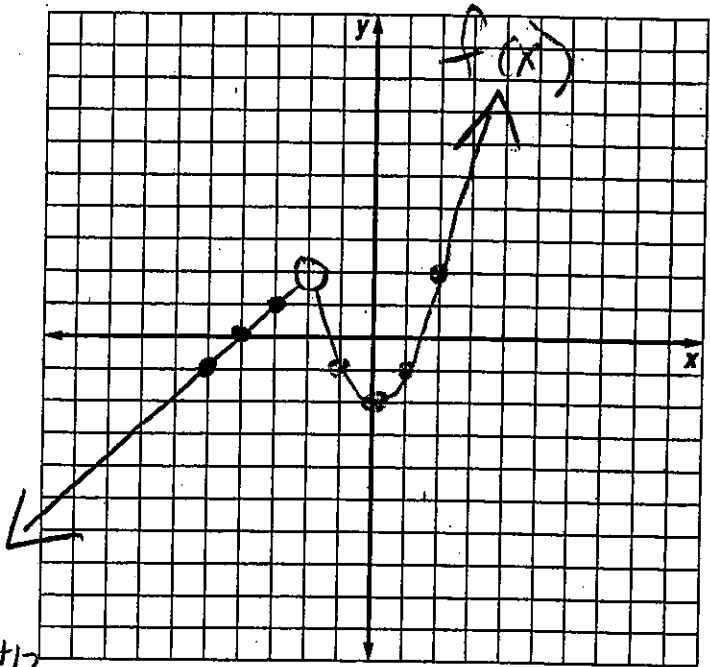
13



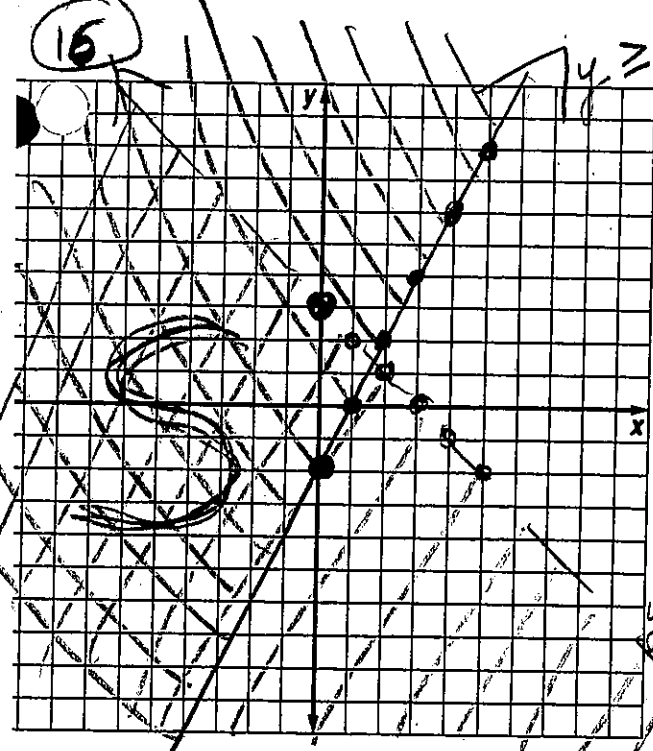
$$y < -x + 2$$

$$4y > -8x + 12$$

14



15



$$y \geq 2x - 2$$

$$y + x < 3$$

