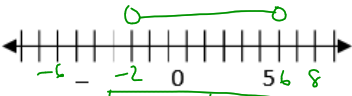


<p>1. Simplify completely:  <math>(7x^5y^{-4})^2</math></p> $= 49x^{10}y^{-8}$ $= \boxed{\frac{49x^{10}}{y^8}}$	<p>2. Solve the system of equations for y.</p> $\begin{cases} 2(5x-3y)=31 \\ 3(4x+2y)=16 \end{cases}$ $\begin{aligned} 10x-6y &= 31 \\ 12x+6y &= 16 \end{aligned}$ <hr/> $\frac{22x}{22} = \frac{47}{22}$ $x = \frac{47}{22}$ $4\left(\frac{47}{22}\right) + 2y = 16$ $\frac{188}{11} + 2y = 16$ $2y = 16 - \frac{188}{11}$ $2y = \frac{176}{11} - \frac{188}{11}$ $2y = \frac{-12}{11}$ $y = \frac{-6}{11}$ <p><math>\boxed{\left(\frac{47}{22}, -\frac{6}{11}\right)}</math></p>	<p>3. Simplify completely:</p> $\sqrt{40} \cdot \sqrt{80} = \sqrt{3200}$ $= \sqrt{1600 \cdot 2}$ $= \boxed{40\sqrt{2}}$
<p>4. Solve for x: <math> 5x+1 =14</math></p> $5x+1=14 \text{ or } 5x+1=-14$ $\frac{5x}{5} = \frac{13}{5} \quad \frac{5x}{5} = \frac{-15}{5}$ $\boxed{x = \frac{13}{5} \text{ or } x = -3}$ <p>Answer: <math>\boxed{x = \frac{13}{5} \text{ or } -3}</math></p>	<p>5. Solve for t: <math>\frac{3}{3} t-2  &lt; \frac{12}{3}</math></p> $ t-2  < 4$ $t-2 < 4 \text{ and } t-2 > -4$ $\frac{t-2}{+2} < \frac{4}{+2} \text{ and } \frac{t-2}{+2} > \frac{-4}{+2}$ $t < 6 \text{ and } t > -2$  <p>Answer: <math>\boxed{-2 &lt; t &lt; 6}</math></p>	<p>6. Solve</p> $4x - (3x-1) - 3(x+7) = 40$ $4x - 3x + 1 - 3x - 21 = 40$ $-2x - 20 = 40$ $\frac{-2x}{-2} = \frac{60}{-2}$ $\boxed{x = -30}$
<p>7. Solve for x: <math>-8(x+2) &gt; (4)^3</math></p> $-8x - 16 > 64$ $\frac{-8x}{-8} > \frac{80}{-8}$ $\boxed{x < -10}$	<p>8. Solve: <math>3r - (7r+2) = 12</math></p> $3r - 7r - 2 = 12$ $-4r - 2 = 12$ $\frac{-4r}{-4} = \frac{14}{-4}$ $\boxed{r = -\frac{7}{2}}$	<p>9. A food truck rents for \$375 a day plus \$0.15 per item sold. How many items were sold if the bill for the food truck was \$690.60?</p> $690.60 = 375 + .15x$ $\frac{315.60}{.15} = \frac{.15x}{.15}$ $2104 = x$ <p><math>\boxed{2104 \text{ items were sold.}}</math></p>

10. At a little league game, hot dogs cost \$1.75 and sodas cost \$0.50. Suppose a parent has 7 kids and buys them each a soda. What is the greatest number of hot dogs the parent can buy and still pay less than \$12? (Use space in the a margin above for work)

$$1.75h + .50(7) < 12.00$$

$$1.75h + 3.50 < 12.00$$

$$\begin{array}{r} 1.75h \\ \underline{1.75} \end{array} \begin{array}{r} -3.50 \\ -3.50 \\ \hline < 8.50 \\ \underline{1.75} \end{array}$$

$$h < 4.875 \dots$$

The parent can buy 4 hot dogs at most

11. What is the x-intercept of the line  $4x + 2y = 8$ ? let  $y = 0$

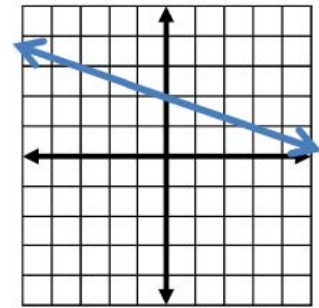
$$4x + 2(0) = 8$$

$$\frac{4x}{4} = \frac{8}{4}$$

$$x = 2$$

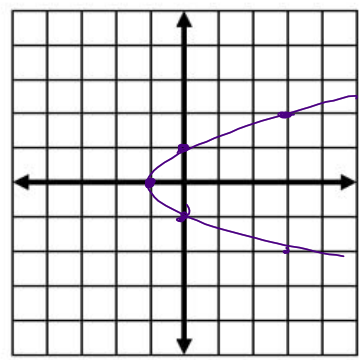
The x-intercept is (2, 0)

12. Write the equation of the line graphed below.



$$y = -\frac{1}{2}x + 2$$

13. Draw a graph that is **NOT** a function.



14. Does the point (-12, -46) lie on the line defined by the equation  $2x - 3y = 117$ ?

$$2(-12) - 3(-46) = 117?$$

$$-24 + 138 = 117?$$

$$114 \neq 117$$

No

15. What is the equation for the line with slope -1, passing through the point (7, 2)?

$$y = -1x + B$$

$$2 = -1(7) + B$$

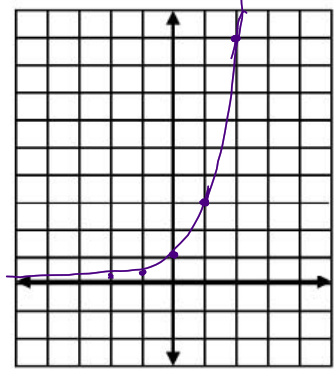
$$2 = -7 + B$$

$$\begin{array}{r} +7 \quad +7 \\ \hline 9 = B \end{array}$$

$$y = -x + 9$$

16. Graph  $y = 3^x$

x  
-2  
-1  
0  
1  
2  
-5  
-4  
-3  
-2  
-1  
0  
1  
2  
3  
4  
5



What is the domain? Range?

17. Write the equation of a line that is perpendicular to

$y = \frac{3}{2}x + 2$  through the point (-6, 12). Use  $m = -\frac{2}{3}$

$$y = -\frac{2}{3}x + B$$

$$12 = -\frac{2}{3}(-6) + B$$

$$12 = 4 + B$$

$$\begin{array}{r} -4 \quad -4 \\ \hline 8 = B \end{array}$$

$$y = -\frac{2}{3}x + 8$$

18. The equation of the line  $l$  is  $4x - 5y = 3$ . Write an equation of a line that is:

a) parallel to line  $l$

$$y = \frac{4}{5}x$$

b) perpendicular to line  $l$

$$y = -\frac{5}{4}x$$

Domain: \_\_\_\_\_

Range: \_\_\_\_\_