1. Name the property of real numbers illustrated by each equation.

    a) $2\left(3+\sqrt{5}\right)=2\cdot3+2\cdot\sqrt{5}$

    b) $16 + (-13) = -13 + 16$

    c) $5\left(0.2\cdot7\right)=(5\cdot0.2)\cdot7$

2. Solve the compound inequality. Graph the solution.
    $3x > -6$ and $2x < 6$

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3. Graph the equation.
    $4x + 3y = 12$

4. Write an equation for each line.

    a) $m = -4$ and the y-intercept is 3.

    b) $m = -1$ and the y-intercept is 2.

5. Find the slope and y-intercept of the line.

6. In the following problems, y varies directly with x.

    a) If $y = 3$ when $x = -9$, find x when $y = 5$.

    b) If $y = -14$ when $x = -7$, find x when $y = 22$.

    c) If $y = 5$ when $x = 8$, find x when $y = 2$.

    d) If $y = 4$ when $x = 14$, find y when $x = 5$

7. Find the slope and y-intercept of each line.

    a) $3x - 4y = 12$

    b) $y = -2$

    c) $4x - 3y = -6$

    d) $f(x)=\dfrac{5}{4}x+7$

8. Find the slope of the line that passes through each pair of points.

    a) $(-3, -2)$ and $(1, 6)$

    b) $(4, -1)$ and $(-2, -3)$

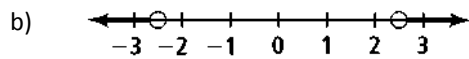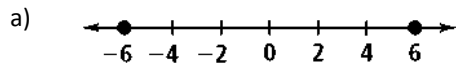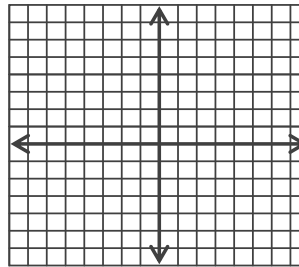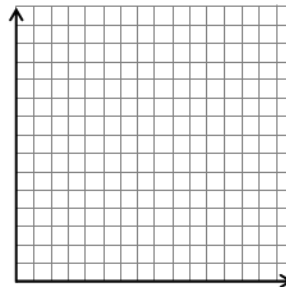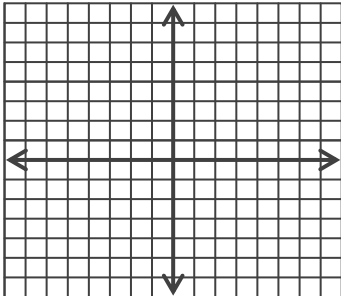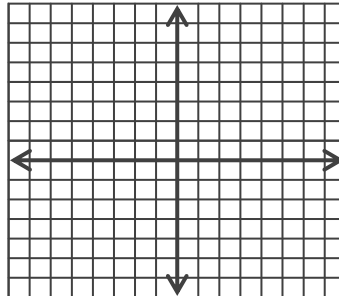|	
9. Determine whether y varies directly with x. If so, find the constant of variation. a) $y = \dfrac{4}{9}x$ b) $y + 4x = 0$ c) $y = 3x$ d) $y + 2 = x$	13. Solve by elimination. $$\begin{cases} x + 5y = 1 \\ 2x + 10y = 2 \end{cases}$$
10. Write an absolute value equation or inequality to describe each graph. a) b) 	14. Solve the system of inequalities by graphing. $y \geq x - 3$ $y \leq \dfrac{-1}{2}x + 2$
11. Without graphing, determine whether each system is *consistent* or *inconsistent*. a) $\begin{cases} 2x + y = 3 \\ y = -2x - 1 \end{cases}$ b) $\begin{cases} x + 3y = 9 \\ 9y + 3x = 27 \end{cases}$	15. Find the maximum or minimum values of the objective function. $\begin{cases} x \leq 4 \\ y \leq 3 \\ x \geq 0 \\ y \geq 0 \end{cases}$ maximum for $P = 2x + y$
12. Solve by substitution. $\begin{cases} y = x + 1 \\ 2x + y = 7 \end{cases}$	16. Solve by elimination. $$\begin{cases} x + y + z = -4 \\ -x + 2y + 3z = 3 \\ x - 4y - 2z = -15 \end{cases}$$

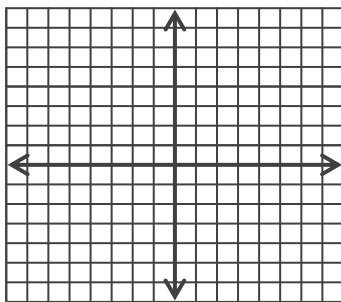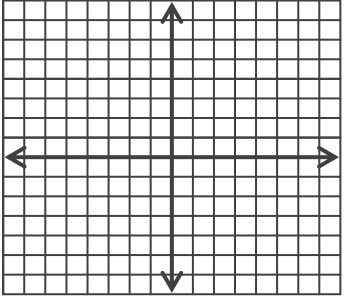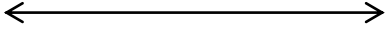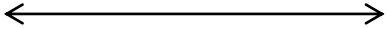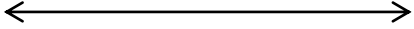|	
17. Graph and list the vertex, tell if it is a max or min and list the axis of symmetry. $y = 3(x-2)^2 + 1$	21. Factor and sketch the zeros of the function. $y = x^3 - x^2 - 12x$
18. Write each polynomial in standard form, classify it by degree and number of terms. a) $3c^2 - 4c + 9 - 4c^2$ b) $3x^2y - 3xy - 5x^2y$ c) $6a^2b^2c^1$ d) $5x^2 - 5x - x^2 + x + 4x - 6x^3 - 1$	22. Factor each expression. a) $16 - 64p^2$ b) $25h^3 - 16h$ c) $4k^3 - 24k^2 + 36k$ d) $b^2 - 11b + 30$
19. Use $-\dfrac{b}{2a}$ to determine the vertex. List the axis of symmetry and y-intercept for the quadratic equation and draw the graph. $y = x^2 - 2x + 3$	23. Factor each expression. a) $8x^2 + 13x - 6$ b) $8m^3 - 1$ c) $6x^2 + 28x - 10$ d) $125 + 27y^3$
20. Determine the standard form equation given the zeros. a) $x = -3, 1, 0$	24. Use long division to divide. $x + 3 \overline{)x^3 + 2x^2 + 5x + 12}$

25. Use synthetic division to divide. $$\frac{4n^3 - 6n^2 + 2n - 7}{n - 2}$$	29. Put the slope intercept form equation $y = -\frac{1}{5}x - 2$ into standard form.
26. Evaluate by synthetic division. . Find $P(-2)$ for $P(x) = x^3 - 4x^2 - x - 6$	30. Graph each and list the vertex, tell if it is a max or min and list axis the of symmetry. $y = -7(x + 2)^2 - 1$
27. Expand using Pascal's triangle. $(y - 2)^4$	31. Solve each equation and graph the solution. a) $\|2c - 6\| - 9 = 5$ $\longleftrightarrow$ $\longrightarrow$ b) $\|2y - 18\| + 4 < 10$ $\longleftrightarrow$ $\longrightarrow$
28. Categorize each number into one or more real number sets. a) $\sqrt{7}$ b) -4 c) $\frac{12}{7}$ d) 3π e) $-\frac{3}{4}$	32. Solve each inequality. Graph the solution. a) $-3x - 11 \geq 1$ $\longleftrightarrow$ $\longrightarrow$ b) $-3 < -2x + 13 < 1$ $\longleftrightarrow$ $\longrightarrow$