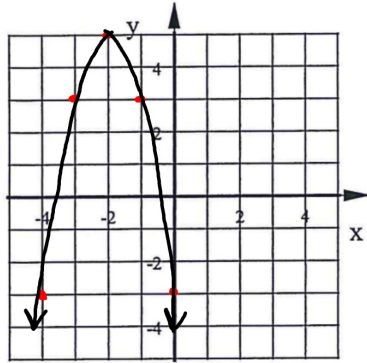


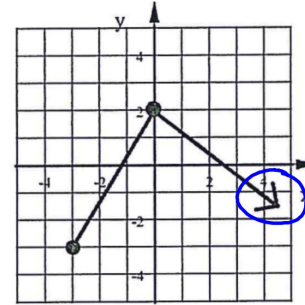
1. Graph this function with at least 5 points.

$$y = -2(x+2)^2 + 5$$



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

2. State the Domain and Range of this graph:



Domain: $x \geq -3$ $[-3, \infty)$

Range: $y \leq 2$ $(-\infty, 2]$

3. The value of a painting you own is dropping. The value of the painting is a function of how many years you've owned it. At first the painting was worth \$100,000. The price dropped \$1250 each year. Write a function rule to model this situation. Define your variables.

EQ: variables:

$$y = -1250x + 100000$$

$$y = 100000 - 1250x$$

$$y = \$$$

$$x = \text{yrs}$$

a. In how many years will the painting be worth \$70,000?

$$70000 = 100000 - 1250x$$

$$-30000 = -1250x$$

$$x = 24 \text{ yrs}$$

4. Use these two functions: $h(c) = c^2 - 4$ and

Find $2h(-3) - 4p(-2)$

$$h(-3) = (-3)^2 - 4$$

$$2[5] - 4[9] = 5$$

$$10 - 36 = -26$$

$p(a) = 7 - a$

$$p(-2) = 7 - (-2)$$

$$= 9$$

Solve each equation.

1) $|8x - 7| + 9 = 72$

$$\begin{array}{r} -9 \quad -9 \\ \hline |8x - 7| = 63 \end{array}$$

$$8x - 7 = 63$$

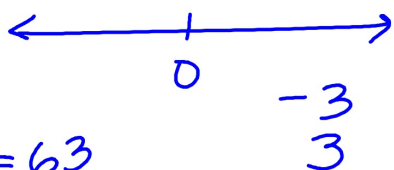
$$8x = 70$$

$$x = 8.75$$

$$8x - 7 = -63$$

$$8x = -56$$

$$x = -7$$



2) $1 + 2|7 - 4x| = 63$

$$\begin{array}{r} -1 \quad -1 \\ \hline 2|7 - 4x| = 62 \\ \hline \frac{2}{2} \quad \frac{62}{2} \\ |7 - 4x| = 31 \end{array}$$

$$7 - 4x = 31$$

$$x = -6$$

$$7 - 4x = -31$$

$$x = 9.5$$

$$\frac{19}{2}$$

3) $-8 - 6|7k - 1| = -44$

$$\begin{array}{r} +8 \quad +8 \\ \hline -6|7k - 1| = -36 \end{array}$$

$$|7k - 1| = 6$$

$$7k - 1 = 6$$

$$7k = 7$$

$$k = 1$$

$$7k - 1 = -6$$

$$7k = -5$$

$$k = -\frac{5}{7}$$

$$= -0.71$$

4) $-2|-5n + 2| - 4 = -10$

$$\begin{array}{r} -2|-5n + 2| = -6 \\ \hline |-5n + 2| = 3 \\ -5n + 2 = 3 \quad -5n + 2 = -3 \\ n = \frac{-1}{5} \quad n = 1 \end{array}$$

Simplify each expression.

5) $-(k-3) - 6k(8+4k)$

$$\begin{aligned} & -k + 3 - 48k - 24k^2 \\ & -49k - 24k^2 + 3 \\ & -24k^2 - 49k + 3 \end{aligned}$$

6) $8m(8+m) + m(4m+3)$

$$\begin{aligned} & 64m + 8m^2 + 4m^2 + 3m \\ & 67m + 12m^2 \\ & 12m^2 + 67m \end{aligned}$$

7) $-(-6r-8) - 8r(7-7r)$

$$\begin{aligned} & 6r + 8 - 56r + 56r^2 \\ & 56r^2 - 50r + 8 \end{aligned}$$

8) $-4n(n+1) - 2(n+2)$

$$\begin{aligned} & -4n^2 - 4n - 2n - 4 \\ & -4n^2 - 6n - 4 \end{aligned}$$

Solve each equation.

9) $0 = -(3r + 5) - (1 - r)$

$$0 = -3r - 5 - 1 + r$$

$$0 = -2r - 6$$

$$6 = -2r$$

$$\boxed{r = -3}$$

NO sol

$$a = b$$

inf sds

$$a = a$$

10) $2(3r + 7) - (6 + 7r) = 3$

$$6r + 14 - 6 - 7r = 3$$

$$-1r + 8 = 3$$

$$-1r = -5$$

$$\boxed{r = 5}$$

11) $-20 = -3(3 + 7x) + 5(3 - x)$

$$-20 = -9 - 21x + 15 - 5x$$

$$-20 = -26x + 6$$

$$-26 = -26x$$

$$\boxed{x = 1}$$

12) $26 = 3(8 + 2a) - 4(2a - 2)$

$$26 = 24 + 6a - 8a + 8$$

$$26 = 32 - 2a$$

$$-32 \quad -32$$

$$-6 = -2a$$

$$\boxed{3 = a}$$

Solve each equation for the indicated variable.

13) $z = ma - n - p$, for a

$$+n \quad +n$$

$$\begin{array}{r} z+n = ma-p \\ +p \qquad +p \end{array}$$

$$\frac{z+n+p}{m} = \frac{ma}{m}$$

$$\boxed{a = \frac{z+n+p}{m}}$$

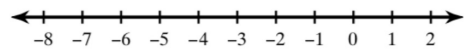
14) $a - c = b(r + d)$, for a

$$\begin{array}{r} a-c = br+bd \\ +c \qquad +c \end{array}$$

$$\boxed{a = br + c + bd}$$

Solve each inequality and graph its solution.

15) $-5 < -3(-1 + x) + 4(2x - 6) - 5x$ $-5 < -21$



$$-5 < -3 - 3x + 8x - 24 - 5x$$

