

1. $B = \frac{2}{3}A(mw + K)$ Solve for w :

$3B = 2A(mw + K)$

$\frac{3B}{2A} = mw + K$

$\frac{3B}{2A} - K = mw$

$w = \frac{3B}{2Am} - \frac{K}{m}$

2. $\frac{3}{4}c + 5d = f$ Solve for c :

$\frac{3}{4}c = -5d + f$

$c = \frac{4(-5d + f)}{3}$

3. $ba + 7 = bx$ Solve for b :

$ba - bx = -7$

$b(a - x) = -7$

$b = \frac{-7}{a - x}$

4. $4fh + 17e = 5e - 2$ Solve for h

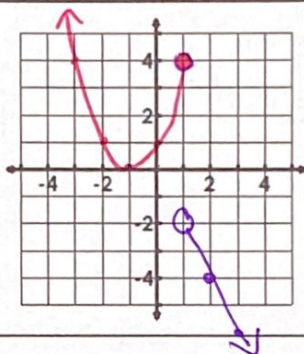
$4fh = -12e - 2$

$h = \frac{-12e}{4f} - \frac{2}{4f}$

$h = \frac{-3e}{f} - \frac{1}{2f}$

5. Graph the following.

$f(x) = \begin{cases} (x+1)^2, & x \leq 1 \\ -2x, & x > 1 \end{cases}$



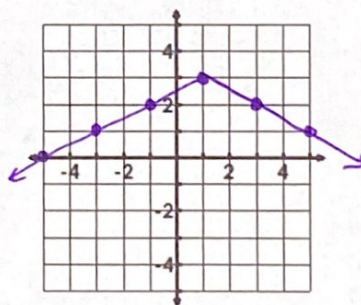
Range: $(-\infty, -2) \cup [0, \infty)$

Increasing: $(-1, 1)$

Evaluate $f(-4) = 9$

6. Graph the following.

$f(x) = -\frac{1}{2}|x - 1| + 3$



Vertex: $(1, 3)$

Decreasing: $(1, \infty)$

Evaluate $f(3) = 2$

Transformations:

- * reflect x-axis
- * vertical shrink $\frac{1}{2}$
- * right 1
- * up 3

Solve the following. Show your work.

7. $2|x + 9| - 4 = 12$

$|x + 9| = 8$

$x + 9 = 8$ $x + 9 = -8$

$x = -1, -17$

8. $|x - 2| = 4x + 8$

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

$x = \frac{-10}{3}, -\frac{6}{5}$