

1. Let $w(x) = \frac{1}{3}x^2 - 6x - 12$ and $m(x) = x - 8$. Use GeoGebra to determine the following.

a. The points of intersection.

c. Solve $w(x) < m(x)$

b. Solve $w(x) = m(x)$

d. Solve $w(x) \geq m(x)$

2. Let $p(x) = -30x^2 - 36x + 48$ and $k(x) = 10$. Use GeoGebra to determine the following.

a. The points of intersection.

c. Solve $p(x) > k(x)$

b. Solve $p(x) = k(x)$

d. Solve $p(x) \leq k(x)$

3. Solve the following inequalities graphically.

a. $\left| -\frac{1}{4}x + 8 \right| > 6$

b. $2x^2 - 8 \leq 4$

c. $-3x^2 - 2x - 4 > \frac{1}{4}x$

f. $5x^2 - 8x + 7 \geq 2$

d. $x^3 + 2x^2 - 5 \leq -\frac{1}{3}x^2$

g. $-10x + 6 < 16x^2 - 8x + 6$

e. $\sqrt{8 - 4x} > -2 - 3x$

h. $-5x^2 - 6 \geq 12x - 4$