Solve.

$$\left(\sqrt{x+6}\right)^2 = \left(5\sqrt{x-12}\right)^2$$

$x+6 = 25(x-12)$

$x+6 = 25x - 300$

$\underset{-25x}{\overset{-6}{}} \quad \underset{-25x}{\overset{-6}{}}$

$\dfrac{-24x}{-24} = \dfrac{-300}{-24}$

$\boxed{x = 12.75}$

Solve.

$$\left((x+2)^{\frac{1}{2}}\right)^2 = \left(6(x-3)^{-\frac{1}{2}}\right)^2$$

$x+2 = 36(x-3)^{-1}$

$\dfrac{x+2}{1} = \dfrac{36}{x-3}$

$36 = x^2 - x - 6$

$0 = x^2 - x - 42$

$0 = (x-7)(x+6)$

$x = 7, -6$

$\boxed{x = 7}$

Solve. $(x+13)^{\frac{1}{4}} - (x+1)^{\frac{1}{2}} = 0$

$+(x+1)^{\frac{1}{2}} \quad +(x+1)^{\frac{1}{2}}$

$\left((x+13)^{\frac{1}{4}}\right)^4 = \left((x+1)^{\frac{1}{2}}\right)^4$

$x+13 = (x+1)^2$

$x+13 = x^2 + 2x + 1$

$0 = x^2 + x - 12$

$0 = (x+4)(x-3)$

$x = -4, 3$

$\boxed{x = 3}$

Solve.

$$(x+3)^{\frac{1}{6}} = \sqrt[3]{7}$$

$\left((x+3)^{\frac{1}{6}}\right)^6 = \left((7)^{\frac{1}{3}}\right)^6 \longrightarrow 7^2$

$x+3 = 49$

$\dfrac{-3 \quad -3}{x = 46}$

Page 394

Problems 6, 7, 9, 17, 18, 21, 23, 54

Due tomorrow

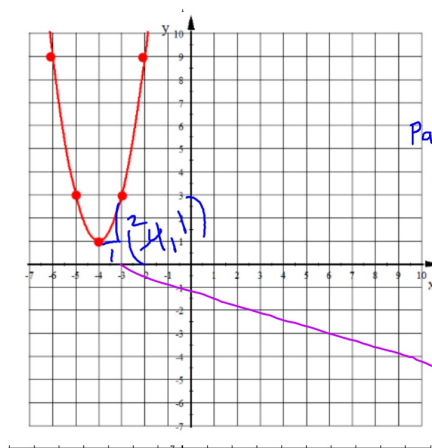By definition a **Relation** is a set of ordered pairs
(a bunch of points)

What is a function?

A relation such that every x-value is paired with one and only one y-value.

---

1. Plot the following points and connect them to form a parabola.

$(-6,9),(-5,3),(-4,1),(-3,3),(-2,9)$

2. Write the equation of this parabola.

Parent:

$$y = a(x-h)^2 + k$$

$$y = 2(x+4)^2 + 1$$

this parabola is twice as tall as the parent function.