

Name _____
Date _____

Advanced Algebra
Unit 2: Families of Functions
Homework #6

I can represent a translation in multiple ways

The Given parent function is $y = x^3$

Fill each of the missing columns in using the proper notation.

Words	General Function notation	Specific Function Notation using the given parent function
3 to the right		
		$f(x) = (x-6)^3 + 2$
	$y = f(x) - 6$	
2 to the left and 3 down		

2) Given a parabola $y = x^2$

State the domain _____

State the range _____

For what x values is f(x) increasing _____

For what x values is f(x) decreasing _____

3) Given the function $y = 2(x-3)^3 + 6$

Find f(5) _____

Given f(x) = 185 find x _____

I can find x and y intercepts:

Solve the following equations, they are set up for you to find the x intercept(s)

$$4) 0=2(x-3)^2-18$$

$$5) 0= |x - 4| -16$$

$$6) 0=3(x-4)^3-21$$

$$7) 0= 2(x - 4)^{\frac{1}{3}}$$

Find the x and y intercepts of the following functions:

$$8) f(x)= 4(x-8)^2-17$$

$$9) y= 3|x - 2|-28$$

X intercept is :

X intercept is:

y intercept is :

y intercept is: