

# Test Prep

True and False, if false explain what needs to be changed to make the answer true.

1) Odd functions are symmetric over the ~~x-axis~~.

origin

False

2) Even functions are symmetric over the y-axis.

True

3) A function and its inverse are symmetric over the ~~origin~~.

$y=x$

False

4) The ~~dependant~~ variable is know as the domain.

independent

False

5) A function is constant when the y values remain equal as the x values increase.

True

6) A function is decreasing when the y values become ~~larger~~ as the x values increase.

smaller

False

Horizontal  
Vertical  
line test

## Fill in the blank.

1) Vertical line test is the graphical test that is used to determine if a graph represents a function.

### Vertical Line Test

2) Only one to one functions have inverses.

### One to One

3) \_\_\_\_\_ is the graphical test that is used to determine if a function has an inverse.

### Horizontal Line Test

4)  $(f \circ f^{-1})(2.35) =$  2.35

$$(f^{-1} \circ f)(2.35)$$

$$f(f^{-1}(2.35))$$

$$f^{-1}(f(2.35))$$

Find the zeros of the following functions.  $f(x) = 0$

1)  $f(x) = x^3 - 2x^2 + 9x - 18$

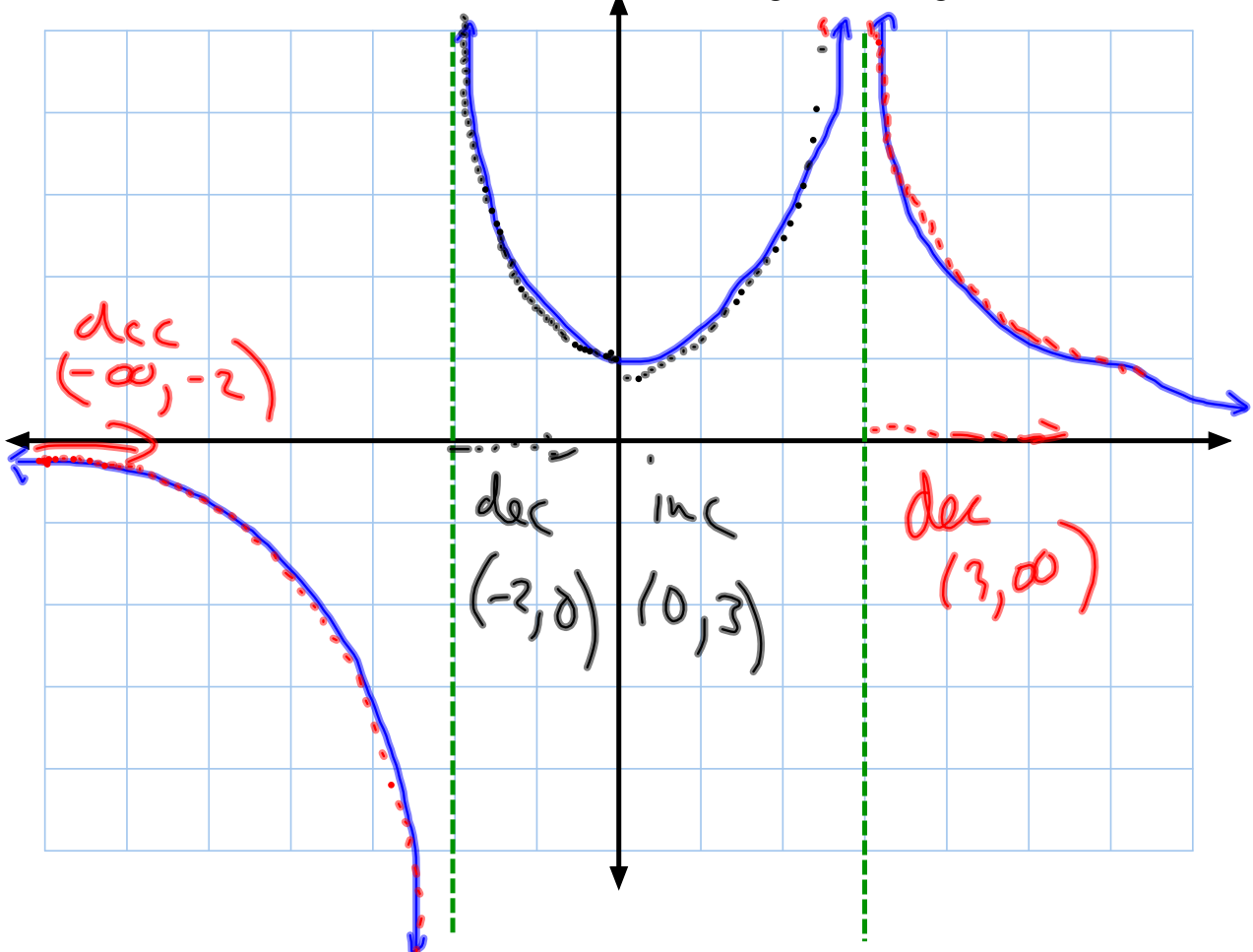
Grouping

$x=2,$

$$\begin{aligned} & x^2(x-2) + 9(x-2) \\ & (x-2)(x^2+9) = 0 \end{aligned}$$

2)  $g(x) = \frac{x^2 + 4x - 5}{x - 6}$  num = 0

Find the interval where the function is increasing, decreasing and/or constant.



Determine the domain and range of the following basic functions.

$$1) \quad g(x) = -\sqrt{2x - 7}$$

$$2) \quad g(x) = x^2 - 5$$

$$3) \quad g(x) = -|x + 4| + 2$$

$$4) \quad g(x) = (x - 2)^3$$

Find the inverse, if exist.

$$1) \quad f(x) = \frac{5}{2x-1}$$

$$2) \quad f(x) = x^2 + 2, \quad x \leq 0$$

$$3) \quad f(x) = \sqrt{64 - x^2}$$

Chapter 2:  
Big Idea: Polynomials and Rational Functions

2-1: Quadratic **Read p 136-141**

Essential Questions

- How do you sketch a quadratic function?
- What is the standard form for a quadratic?
- Sketch a parabola using standard form.
- Find the vertex and x-intercepts of a parabola.
- Write an equation of a parabola using the vertex and x-intercepts.

**Assignment:**

**p142: 15-27 mult of 3, 39-48 mult of 3**