

**Section 1.2 All Together Review**

Name Key  
Date \_\_\_\_\_ Hour \_\_\_\_\_

**Determine whether the formula determines y as a function of x.**

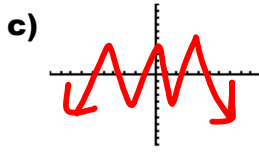
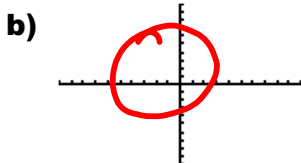
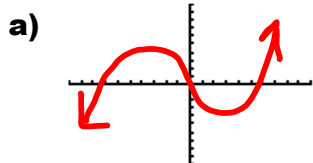
1)  $y = x^2 \pm 4$

2)  $x = 9 - y$

1) No

2) Yes

3) **Of the three graphs, which are functions?**



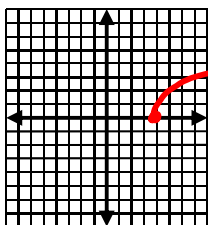
3) a) yes or no

b) yes or no

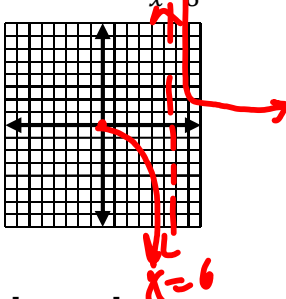
c) yes or no

**Sketch the graph, find the domain and range of each function.**

4)  $f(x) = \sqrt{x-5}$



5)  $g(x) = \frac{\sqrt{x}}{x-6}$



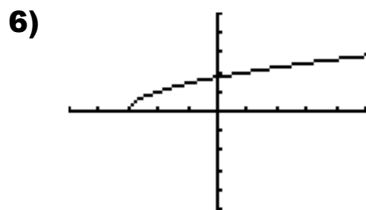
4) D: [5, ∞)

R: [0, ∞)

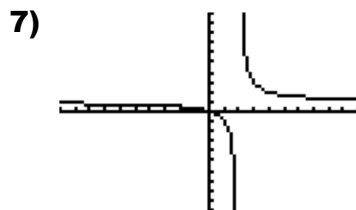
5) D: [0, 6) ∪ (6, ∞)

R: (-∞, ∞)

**Find the domain and range of each graph.**



**[-5, 5] by [-5, 5]**



**[-10, 10] by [-10, 10]**

6) D: [-3, ∞)

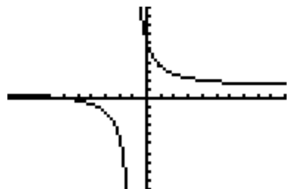
R: [0, ∞)

7) D: (-∞, 2) ∪ (2, ∞)

R: (-∞, 1) ∪ (1, ∞)

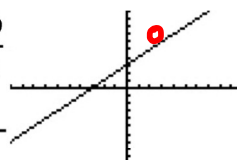
**Consider the information given, name the points of discontinuity and identify the type (removable, jump or infinite).**

8)  $f(x) = \frac{x+6}{x+1}$



9)  $g(x) = \frac{x^2-9}{x-3}$

X	Y1
3	ERROR



8)  $x = -1$

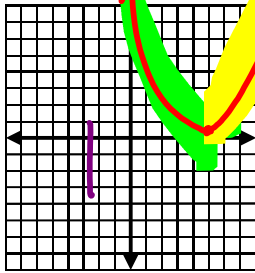
type: infinite

9)  $x = 3$   
type: removable

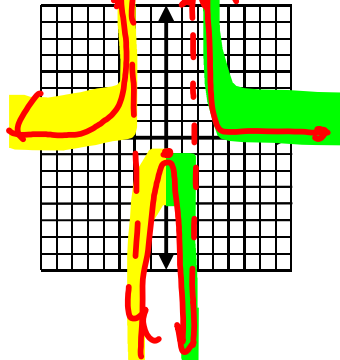
$\frac{(x-3)(x+3)}{x-3}$

Sketch the graph, tell the intervals on which the function is increasing and decreasing.

10)  $f(x) = (x-5)^2$



11)  $h(x) = \frac{x^2}{x^2-4}$



10) I:  $[5, \infty)$

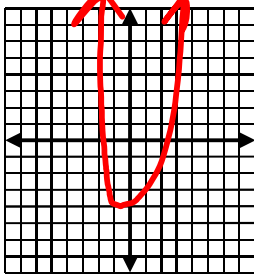
D:  $(-\infty, 5]$

11) I:  $(-\infty, -2), (-2, 0)$

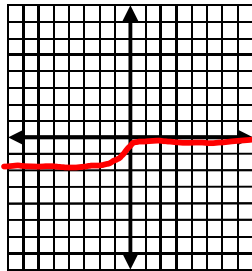
D:  $[0, 2), (2, \infty)$

Sketch the graph, identify each of these functions as bounded below, bounded above, bounded or not bounded.

12)  $m(x) = 5x^2 - 4$



13)  $p(x) = \frac{x}{1+x^2}$

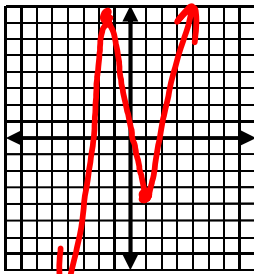


12) bounded below

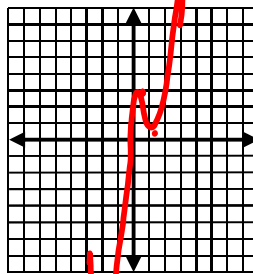
13) bounded

Sketch the graph, find the maximum values and minimum values of the function and the value of x at which it occurs. Give values rounded to two decimal places.

14)  $f(x) = x^3 - 6x + 2$



15)  $g(x) = x|5x - 8|$



14) Min: -3.66 at x = 1.41

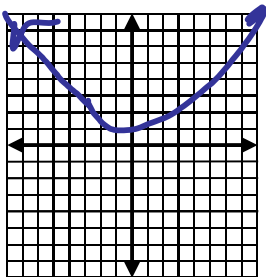
Max: 7.66 at x = -1.41

15) Min: 0 at x = 1.60

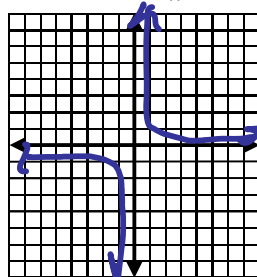
Max: 3.2 at x = 0.80

Sketch the graph, tell whether the functions are even, odd, or neither.

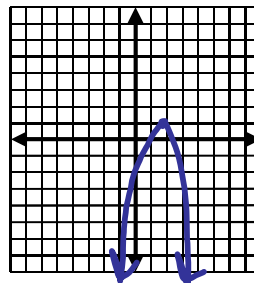
16)  $f(x) = \sqrt{x^2 + 6}$



17)  $g(x) = \frac{1}{x}$



18)  $h(x) = -2x^2 + 5x - 2$



16) even

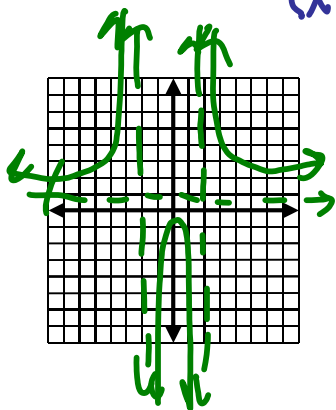
17) odd

18) Neither

Use the method of your choice to find all horizontal and vertical asymptotes of the function, if applicable. If none, state none.

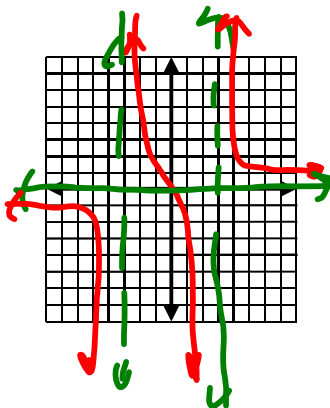
19)  $f(x) = \frac{x^2+5}{x^2-4}$

$(x-2)(x+2)$



20)  $g(x) = \frac{2x-4}{x^2-9}$

$\frac{2x}{x}$



19) VA:  $x=2, x=-2$

HA:  $y=1$

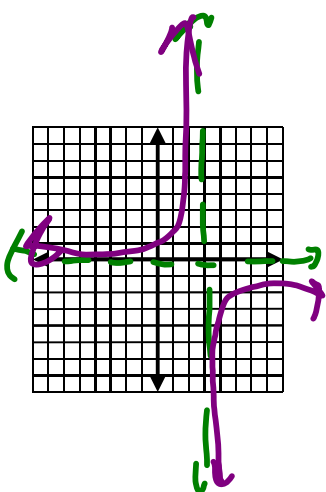
20) VA:  $x=3, x=-3$

HA:  $y=0$

21)  $h(x) = \frac{-10}{x^3-27}$

22)  $m(x) = \frac{3x^2+x-3}{x^2-16}$

$(x-4)(x+4)$



21) VA:  $x=3$

HA:  $y=0$

22) VA:  $x=4, x=-4$

HA:  $y=3$

