Calculus I
Parent Graphs, Domain and Range

Name _____
Block _____ Date ____

Fill in the missing information for the following functions.

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

Transformations:

Graph:

Domain:

Range:

2) $f(x) = -(x-3)^2 + 4$

Transformations:

Graph:

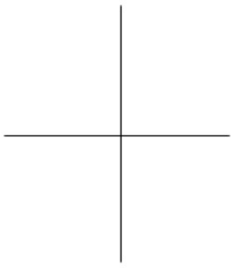
Domain:

Range:

A graphing calculator may be used to sketch a graph of 3 and 4.

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

Graph:

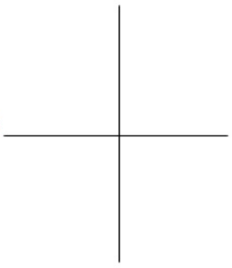


Domain:

Range:

4) $g(x) = x^2 - 6x + 8$

Graph:



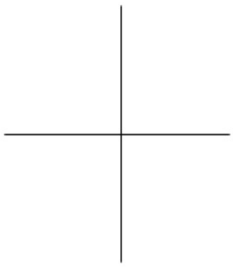
Domain:

Range:

5) $f(x) = 2 + \sqrt{-x}$

Transformations:

Graph:



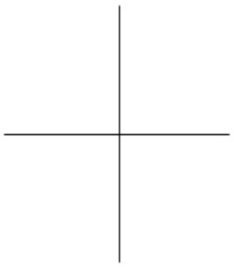
Domain:

Range:

6) $j(x) = \sqrt{x+6} + 3$

Transformations:

Graph:



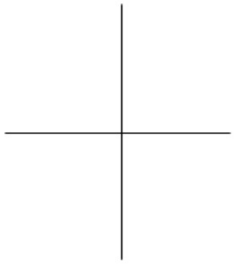
Domain:

Range:

7) $g(x) = \dfrac{1}{x+2}$

Transformations:

Graph:



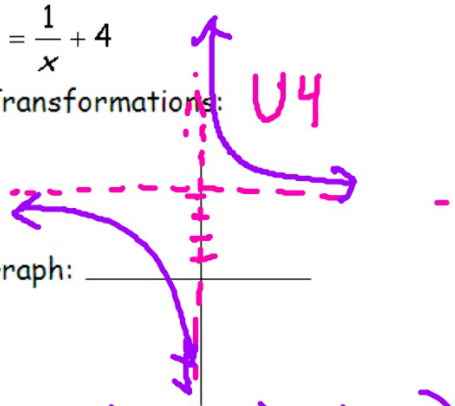
Domain:

Range:

8) $f(x) = \dfrac{1}{x} + 4$

Transformations: U4

Graph:



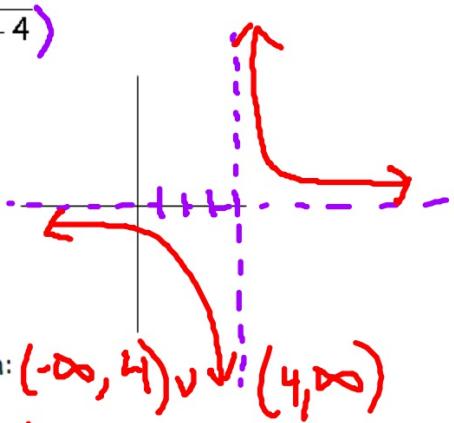
Domain: $(-\infty, 0) \cup (0, \infty)$

Range: $(-\infty, 4) \cup (4, \infty)$

A graphing calculator may be used to sketch the graph of 9-12.

9) $f(x) = \dfrac{8}{x-4}$

Graph:

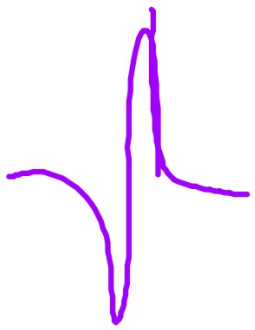


Domain: $(-\infty, 4) \cup (4, \infty)$

Range: $(-\infty, 0) \cup (0, \infty)$

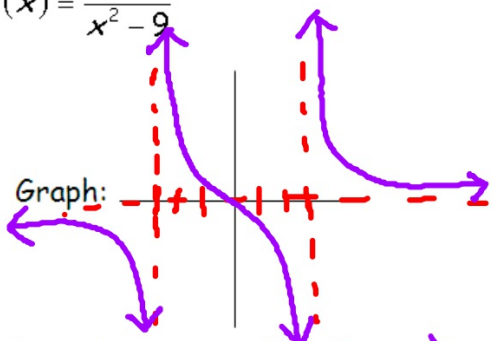
$8 \div x - 4$

$\dfrac{8}{x} - 4$



10) $k(x) = \dfrac{6x}{x^2 - 9}$

Graph:

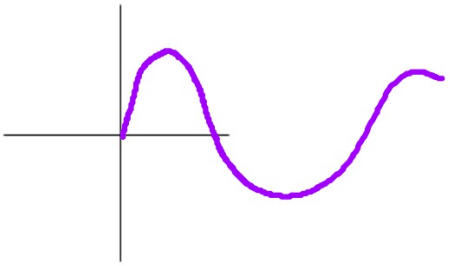


Domain: $(-\infty, -3) \cup (-3, 3) \cup (3, \infty)$

Range: $(-\infty, \infty)$

11) $g(x) = 5\sin\sqrt{x}$

Graph:

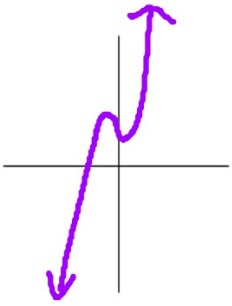


Domain: $[0, \infty)$

Range: $[-5, 5]$

12) $f(x) = 3x^5 - 2x^2 + 1$

Graph:



Domain: $(-\infty, \infty)$

Range: $(-\infty, \infty)$

Calculus I Name _____

Homework: Parent Graphs, Domain and Range Block _____ Date ____

Sketch a graph and determine the domain and range of each function.
A graphing calculator may be used for any problem.

13. $f(x) = 3 + \sqrt{x}$

14. $f(x) = 3\sin x$

15. $f(x) = x^5 - 3x^3 + x + 2$

16. $g(x) = 3x + 2$

17. $h(x) = x^2 + 3$

18. $f(x) = \dfrac{x}{|x|}$

19. $f(x) = \dfrac{x+4}{(x+4)(x-3)}$

20. $f(x) = \sqrt{x^2 - 4}$

21. $g(x) = \sqrt{5 - x^2}$

22. $h(x) = \sqrt{\dfrac{x-1}{x+2}}$