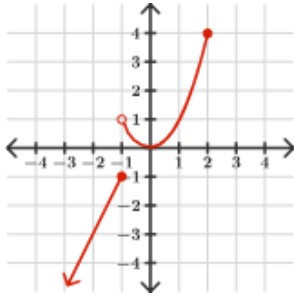


Pre-Cal CW 1.3-1.5

Given: $f(x) = 2x + 3$; $g(x) = 3x^2 - x + 5$;

1.
$$\frac{g(x+h) - g(x)}{h} =$$

Given the following graph:



2. State the domain and range.
3. Write the interval where the function is increasing.
4. Write the interval where the function is positive.
(Keep in mind that 0 is neither positive or negative)

5. State the domain for the given function:

$$f(x) = \frac{\sqrt{x+3}}{x-2}$$

6. Determine whether each function is even, odd, or neither. Show work to justify your answer.

A) $f(x) = x^4 - 2x^2 + 1$

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

7. If $f(x)$ is an even function and $(1, 2)$ is on its graph, what is another point that is also on its graph?

a) For each problem, describe the transformation(s) that is/are taking place.

b) Determine what happens to the point $(-6, 5)$ after the transformation(s)

8. $g(x) = f(x+2) - 4$

9. $g(x) = f(-x) + 3$

Given: $f(x) = x + 3$; $g(x) = 3x^2 - x$; $h(x) = 3x$

10. $(g \circ f)(x) =$

11. $(f \circ g)(-2) =$

12. $(h - g)(-1) =$

13. $\left(\frac{f}{h}\right)(-6) =$