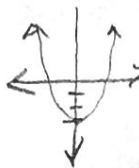


Bellwork: Even/Odd/Neither

$$\frac{-1}{-1} = 1$$

Determine algebraically if each of the following functions is even, odd, or neither.

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



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

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

$$f(-x) = f(x) \therefore \text{EVEN}$$

c) $g(x) = \frac{x^3}{4x - x^5}$

$$g(-x) = \frac{(-x)^3}{4(-x) - (-x)^5}$$

$$= \frac{-x^3}{-4x + x^5} = \frac{-x^3}{-(4x - x^5)} = \frac{x^3}{4x - x^5}$$

$$g(-x) = \frac{x^3}{4x - x^5}$$

$$g(x) = g(-x)$$

\therefore Even

b) $h(x) = \frac{x^3}{4 - x^2}$

$$h(-x) = \frac{(-x)^3}{4 - (-x)^2} = \frac{-x^3}{4 - x^2} = -h(x) \therefore \text{ODD}$$

d) $m(x) = -2x^4 \sqrt{x+3}$

$$m(-x) = -2(-x)^4 \sqrt{(-x)+3} = -2x^4 \sqrt{-1(x-3)}$$

Not even

$$-m(x) = 2x^4 \sqrt{x+3}$$

$$m(-x) \neq m(x) \neq -m(x)$$

Neither