

#31

$$h(x) = x^4 - x^2 + 1$$

$$h(2) = 2^4 - 2^2 + 1 = 16 - 4 + 1 = 13$$

$$h(2) = 13$$

$$h(-1) = (-1)^4 - (-1)^2 + 1 = 1 - 1 + 1 = 1$$

$$h(-1) = 1$$

$$h(-x) = (-x)^4 - (-x)^2 + 1 = x^4 - x^2 + 1$$

$$h(-x) = x^4 - x^2 + 1$$

$$h(3a) = (3a)^4 - (3a)^2 + 1 = 81a^4 - 9a^2 + 1$$

$$h(3a) = 81a^4 - 9a^2 + 1$$

#38

$$f(x) = \frac{|x+3|}{x+3}$$

$$f(5) = \frac{|5+3|}{5+3} = \frac{8}{8} = 1$$

$$f(5) = 1$$

$$f(-5) = \frac{|-5+3|}{(-5)+3} = \frac{2}{-2} = -1$$

$$f(-5) = -1$$

#44

feel free to use Desmos or a graphing calculator

$$f(x) = x^2 \quad \text{parabola} \quad \uparrow$$

$$g(x) = x^2 - 2 \quad \text{shifted } f(x) \text{ down two units}$$

