

OPERATIONS ON FUNCTIONS

FIND THE RULE OF COMPOSITION OF FUNCTIONS MAZE

Directions: Given the functions to the right, perform the operation to find the rule of the new function. Use your answer to navigate through the maze. Show your work.

$$f(x) = 2x$$

$$p(x) = 3 - x$$

$$g(x) = x - 2$$

$$q(x) = 4 - 2x$$

$$h(x) = x^2$$

$$k(x) = x^2 - 5$$

START

$$(f \circ g)(x)$$

$$q(f(x))$$

$$(q \circ h)(x)$$

$$g(p(x))$$

$$2x - 1$$

$$-4x + 4$$

$$-2x^2 + 4$$

$$2x - 4$$

$$-2x + 4$$

$$x^4 - 25$$

$$-x + 1$$

$$g(h(x))$$

$$(g \circ f)(x)$$

$$h(k(x))$$

$$(f \circ k)(x)$$

$$x^3 - 2x^2$$

$$4x - 4$$

$$x^2 + 25$$

$$x^2 - 2$$

$$2x - 2$$

$$-x^2 + 8$$

$$2x^2 - 10$$

$$(p \circ g)(x)$$

$$g(g(x))$$

$$(p \circ k)(x)$$

$$k(p(x))$$

$$-x - 1$$

$$x - 2$$

$$x^2 + 8$$

$$k(h(x))$$

$$(h \circ g)(x)$$

$$p(d(f(x)))$$

$$x^4 - 5$$

$$x^2 - 4$$

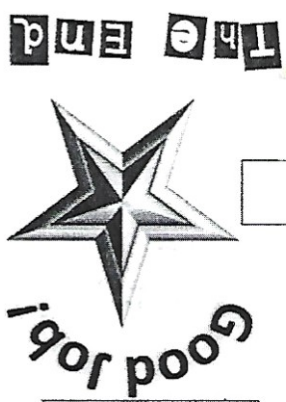
$$4x - 2$$

$$x - 1$$

$$x^2 + 4$$

$$-x^2 + 2$$

$$x^2 + 4$$



Name: _____ **Period:** _____ **Date:** _____

[illegible]