

JANUARY 9

For the function

$$f(x) = 4x^2 - 7$$

Find:

$$f(1) = -3 = 4(1)^2 - 7$$

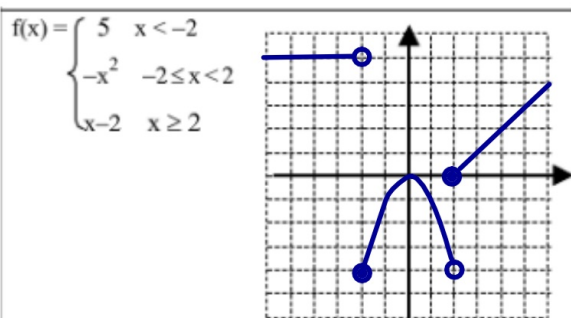
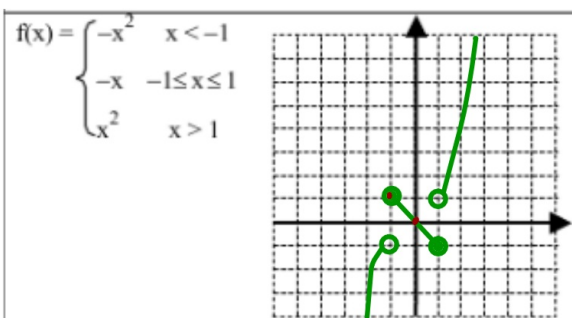
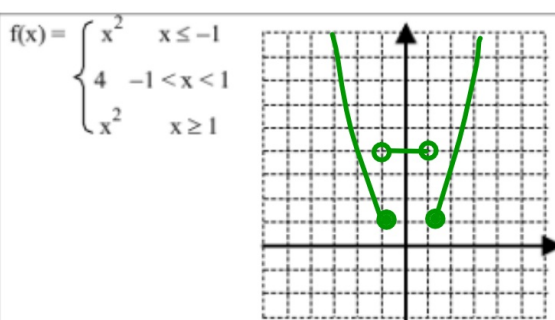
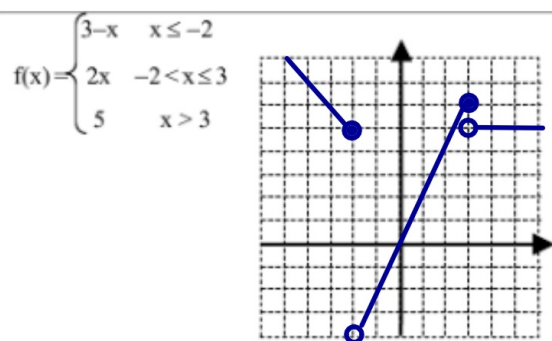
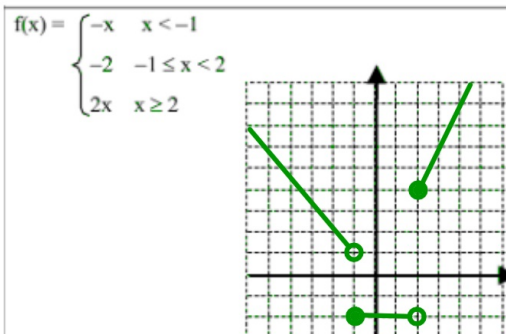
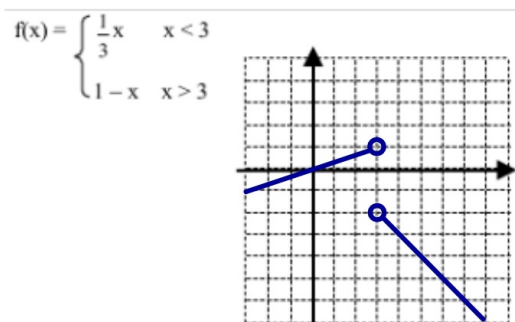
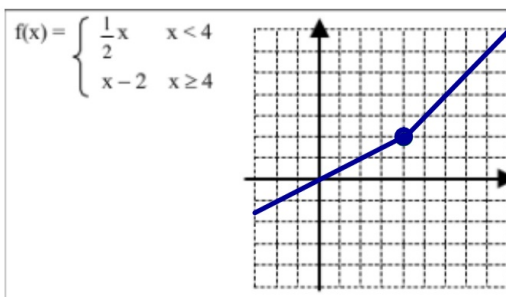
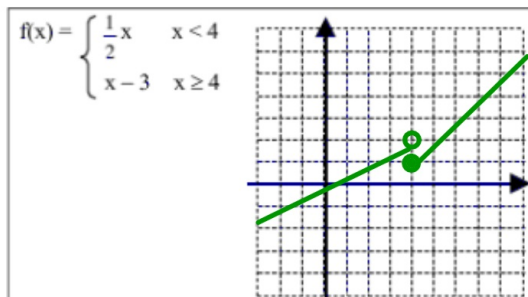
$$f(2) = 9 = 4(2)^2 - 7$$

$$f(0) = -7 = 4(0)^2 - 7$$

JANUARY 9

Students will verbally explain how to
evaluate piecewise functions and
create continuous piecewise
functions

(using the words:
domain, curve, defined...)



$$f(x) = \begin{cases} 3, & \text{if } x \leq 0 \\ 2, & \text{if } x > 0 \end{cases}$$

$$g(x) = \begin{cases} x + 5, & \text{if } x \leq 3 \\ 2x - 1, & \text{if } x > 3 \end{cases}$$

$$h(x) = \begin{cases} \frac{1}{2}x - 4, & \text{if } x \leq -2 \\ 3 - 2x, & \text{if } x > -2 \end{cases}$$

Evaluate:

$$f(-4) = 3$$

$$g(7) = 2(7) - 1 = 13$$

$$h(-4) = \frac{1}{2}(-4) - 4 = -6$$

Go back to each problem and determine which graphs have more than one solution that will result in a continuous function.

Give a mathematical explanation of how you determined this.

$$y = \begin{cases} cx^2 - 2, & x > 1 \\ -4x^2 + d, & x < 1 \end{cases}$$

$$c(1)^2 - 2 = -4(1)^2 + d$$

$$\underset{+4}{c-2} = \underset{+4}{-4+d}$$

$$c+2 = d$$