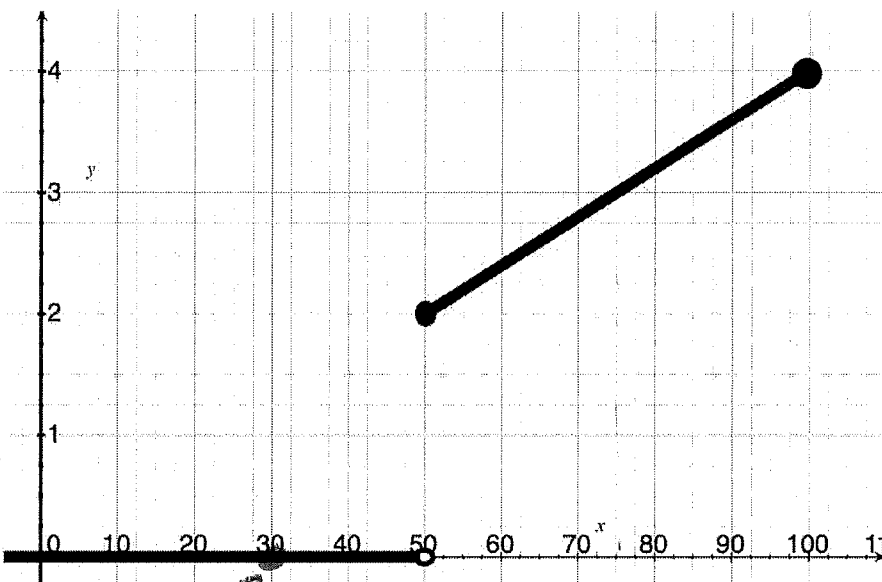


Quiz 1

Key

This is a two-stage quiz. During the first stage, you have 15 minutes to use your knowledge & calculator to take this quiz. In the second stage, you are welcome to use your books, notes, and students in the class to retake the same quiz. You have 15 min. to complete the quiz and to build one solution to be turned in.

Show *all* your work. Reasonable supporting work must be shown for any partial credit.



1. One instructor uses the graph (denoted by f) on the right to take % in a course as inputs and returns course marks on a 4. scale.

(a) [2] Is this a function? Why or why not.

yes - the graph passes the vert. line test. (+1)

(b) [1] Is (30, 0) on the graph of f ?

yes (+1)

(c) [1] Estimate $f(75)$.

3.0 (+1)

(d) [1] Estimate all x such that $f(x) = 2$.

50% (+1)

(e) [2] What is the domain of f ?

$(-\infty, 100]$ or $[0, 100]$

x-values (+1)
end values (+1)
brackets (+1)

(f) [3] Find the piece-wise defined algebraic rule for f of the form:

$$f(x) = \begin{cases} 0 & x < 50 \\ \frac{1}{25}x + 0 & 50 \leq x \leq 100 \end{cases} \quad \left. \begin{array}{l} \{ (+1) \\ \} (+1) \end{array} \right\}$$

line $y = mx + b$ (+1)

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{2}{100-50} = \frac{2}{50} = \frac{1}{25}$$

thru (50, 2) so $\left. \begin{array}{l} 2 = \frac{1}{25}(50) + b \\ 2 = 2 + b \Rightarrow b = 0 \end{array} \right\} (+1)$

Line sketch #1

S.1.1 #36

S.1.3 #32

Function sketch #2

Webhook #13

Webhook #21