

Quiz 2

This is a two-stage quiz. During the first stage, use your knowledge & calculator to take this quiz. You have 15 min. In the second stage, you are now welcome to use your books, notes, and students in the class to retake the same quiz. You have 15 min. to write one solution (with everyone's name on it!) to be turned in for the group.

1. Let f be the piece-wise defined function graphed below and to the right.

1. [1] Find $f(3)$

§1.4 #76
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 $f(3) = 2$
graph read (0.5)
got it (0.5)

Figure 1: Handwritten solution to part 1.

Source: §1.4 #76.

$$f(3) = 2.$$

- graph read (0.5)
- got it (0.5)

2. [1] What is the y intercept of f ?

WebHW1.2 & 1.4 #16
2. [1] What is the y intercept of f ?
(0.5) where crosses y -axis
(0.5) (0,1) or $y=1$

Figure 2: Handwritten solution to part 2.

Source: WebHW1.2 & 1.4 #16.

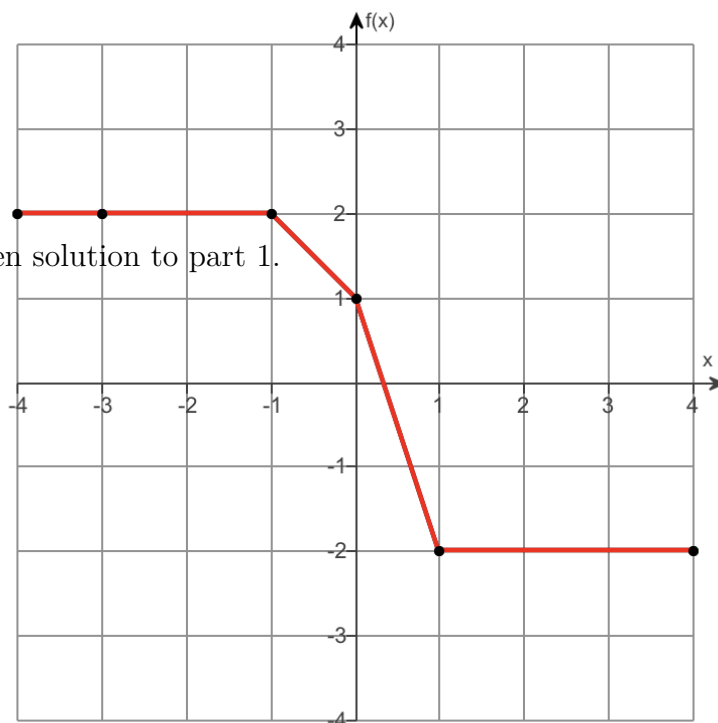
Where f crosses the y -axis: $(0, 1)$ or $y = 1$.

- where crosses y -axis (0.5)
- answer (0.5)

3. [2] Find x so that $f(x) = 2$.

Tutor Activity #5
3. [2] Find x so that $f(x) = 2$.
(0.5) input so output is 2.
got one (0.5) Lots of answers?
more than (0.5) $x = -4, -3, -2, -1$ and $[-4, -1]$

Figure 3: Handwritten solution to part 3.



Source: TransformActivity #5.

Input so that output is 2: $x = -4, -3, 2, -1$ and $[-4, -1]$.

Lots of answers!

- input so output is 2 (0.5)
 - got one (1)
 - more than 1 (0.5)
4. [2] Sketch the graph of
 $g(x) = f(x) - 1$

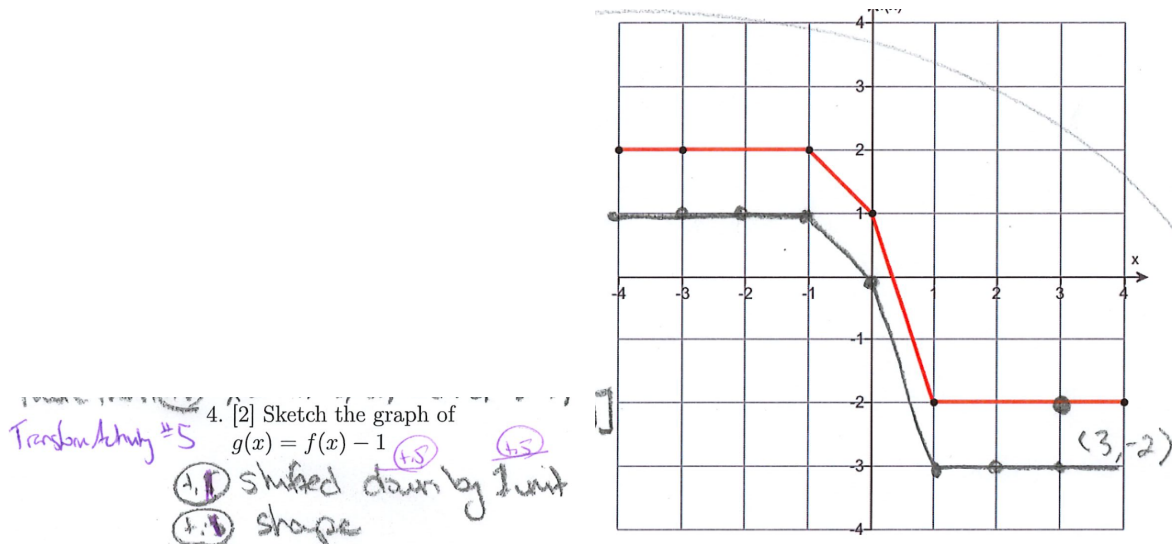


Figure 4: Handwritten solution to part 4.

Source: TransformActivity #5.

g is f shifted down by 1 unit.

- shifted down by 1 unit (1)
- shape (1)

2. Consider a line l that passes through $(-1, 3)$ and $(2, 2)$.

1. [1] Sketch the line on the axis to the right.

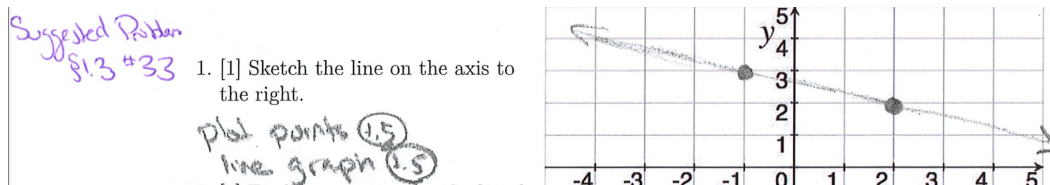


Figure 5: Handwritten solution to part 1.

Plot the points $(-1, 3)$ and $(2, 2)$ and sketch the line through them.

- Lots of correct answers!
- slope = $\frac{\text{rise}}{\text{run}} = \frac{-1}{3}$
- ④ Thru $(-1, 3)$ so $3 = -\frac{1}{3}(-1) + b$
 $\Rightarrow 3 = \frac{1}{3} + b \Rightarrow 3 - \frac{1}{3} = b = \frac{8}{3}$
- So $y = -\frac{1}{3}x + \frac{8}{3}$
- ⑤ slope of
⑥ get slope
⑦ eq of line
- ⑧

Lots of correct answers!

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{-1}{3}$$

$$3 = -\frac{1}{3}(-1) + b \implies 3 = \frac{1}{3} + b \implies 3 - \frac{1}{3} = b = \frac{8}{3}$$
$$y = -\frac{1}{3}x + \frac{8}{3}$$

- slope def (0.5)
- got slope (0.5)
- through $(-1, 3)$ (1)
- eq of line (0.5)
- final answer (0.5)