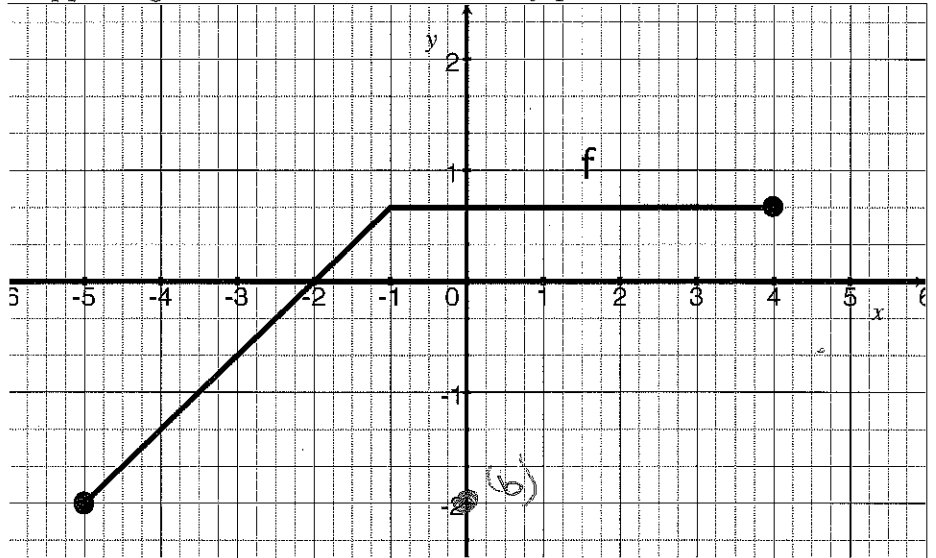


Quiz 1

Key

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

1. Consider the graph of f shown on the right.



Week 1 Friday Activity
 Start (1.5)
 §1.1 #36
 written HW

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

yes passes vertical line test (1.5)

(b) [1] Is $(0, -2)$ on the graph of f ?

no (1)

(c) [1] Estimate $f(3)$.

$\approx 2/3$

(d) [2] What is the Domain of f ?

Week 1 Friday Activity

x values $[-5, 4]$ inclusive endpoints (1.5)

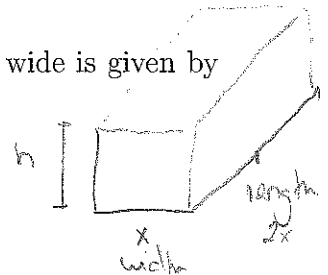
2. The height (in feet) of an open toy box that is twice as long as it is wide is given by $\frac{13.5 - 2x^2}{6x}$, where x is the width of the box.

§1.3 #68
 written HW

(a) [1] Find the length of the box when the width is 1.5 feet.

$$2 \cdot 1.5 = 3 \text{ feet}$$

(1)



(b) [2] Find the height of the box when the width is 1.5 feet.

use formula (1)

$$\text{height} = \frac{13.5 - 2(1.5)^2}{6(1.5)} = \frac{27/2 - 2 \cdot 9/4}{6 \cdot 3/2} = \frac{27/2 - 9/2}{18/2} = \frac{18}{2} \cdot \frac{2}{18} = 1 \text{ ft}$$

(1.5)

(c) [1] Find the volume of the box when the width is 1.5 feet.

(1.5) width \cdot length \cdot height

$$1.5 \text{ ft} \cdot 3 \text{ ft} \cdot 1 \text{ ft} = 4.5 \text{ ft}^3 \text{ or } 9/2 \text{ ft}^3$$

(1.5)