

Key

Quiz 2

Show *all* your work. No credit is given without reasonable supporting work. There are *two* sides to this quiz.

1. Let $f(x) = \frac{3}{\sqrt{x-4}}$.

(a) [2] (WebHW3 #15) Find the domain of f .

(+S) denominator can't equal zero AND (+S) no negatives under sqrt

$$\sqrt{x-4} \neq 0$$

(+S) $x-4 \neq 0$
 $x \neq 4$

AND $x-4 \geq 0$

(+S) $x \geq 4$

So $x > 4$ or $(4, \infty)$

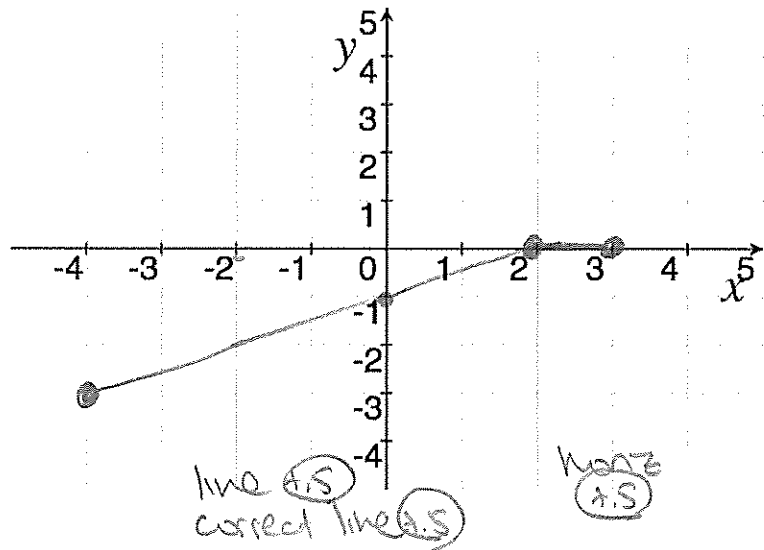
(b) [1] (§1.3 #32) Find $f(x+8)$.

(+S) $f(x+8) = \frac{3}{\sqrt{x+8-4}} = \frac{3}{\sqrt{x+4}}$
(+S)

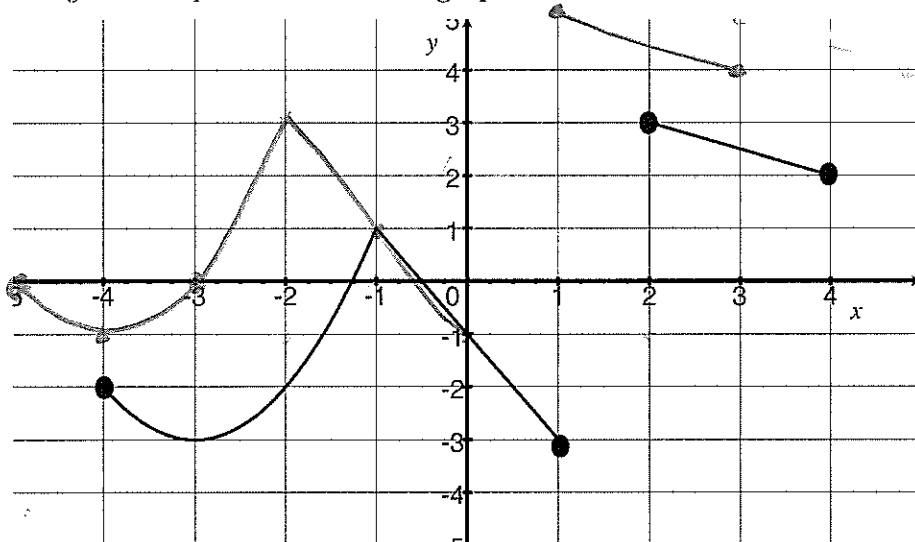
2. [2] (WebHW4 #4)

$$\text{Graph } l(x) = \begin{cases} \frac{1}{2}x - 1 & \text{if } -4 \leq x \leq 2 \\ 0 & \text{if } 2 < x \leq 3 \end{cases}$$

domains (+S)



3. Let g be the piecewise defined graph shown below.



(a) [1] (§1.3 #56) Estimate $g(1)$ = y-value of $x=1$
 -3

(b) [2] (Transformation Wks #5) Find the range of g . (1.5)
 y-values range between -3 up to 1 (1.5)
 then between 2 and 3 (1.5)

so $[-3, 1] \cup [2, 3]$

(c) [2] (Transformation Wks #5) Let $m(x) = g(x+1) + 2$. Graph $m(x)$ on the set of axes. see the break (1.5)

↓
 shift up 2 units (1.5)
 ↓
 shift left 1 unit (1.5)
 ▽
 0

did it (+1)