

SM2H—Unit 1 Test Review Answers

- Domain: $[-2, \infty)$ Range: $[-1, \infty)$
- Domain: $(-\infty, \infty)$ Range: $[2, \infty)$
- a. $f(x) = .40x + 2$
b. Real World Domain is miles driven
c. Real World Range is amount of money charged
d. Domain: $[0 \text{ miles}, 50 \text{ miles}]$
e. Range: $[\$2, \$22]$

4. x-intercept: (5, 0) y-intercept: (0, 5)

5. x-intercept: (-5, 0) y-intercept: (0, 3)

6. Answers Vary

7. Answers Vary

8. Answers Vary

9. even

10. neither

11. odd

12. Domain: $(-\infty, \infty)$ Range: $[-1, \infty)$
x-intercept: (-3, 0), (-1, 0) y-intercept: (0, 3)
Increasing $(-2, \infty)$ Decreasing $(-\infty, -2)$
Positive $(-\infty, -3) \cup (-1, \infty)$ Negative $(-3, -1)$
Minimum is circled
Minimum point: (-2, -1) Minimum value: -1

13. Domain: $(-\infty, \infty)$ Range: $[-4, \infty)$
x-intercept: (0, 0), (4, 0) y-intercept: (0, 0)
Increasing: $(2, \infty)$ Decreasing: $(-\infty, 2)$
Constant: N/A
Positive: $(-\infty, 0) \cup (4, \infty)$ Negative: (0, 4)

14. Domain: $[-6, 6]$ Range: $[-2, 4]$
x-intercept: (-6, 0), (-2, 0) y-intercept: (0, 4)
Increasing: (-4, 0) Decreasing: $(-6, -4) \cup (3, 6)$
Constant: (0, 3)
Positive: $(-2, 6]$ negative: $(-6, -2)$

15. $\lim_{x \rightarrow -\infty} f(x) = \infty$ $\lim_{x \rightarrow \infty} f(x) = \infty$

16. $\lim_{x \rightarrow -\infty} f(x) = -\infty$ $\lim_{x \rightarrow \infty} f(x) = \infty$

17. Parent graph: $y = |x|$ or absolute value

Vertical shrink by $1/2$, translate left 2 and down 3

18. Parent graph: $y = \sqrt{x}$ or square root

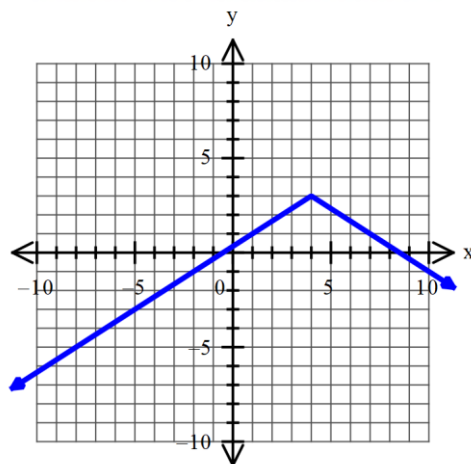
Reflect over the x-axis, translate right 5

19. Parent graph: $y = |x|$ or absolute value

reflect over x-axis, vertical stretch of 3, translate right 1, up 2.

20. Vertex: (4,3) Domain: $(-\infty, \infty)$ Range: $(-\infty, 3]$
Transformations: reflected over x-axis, shrink by $2/3$, right 4, up 3

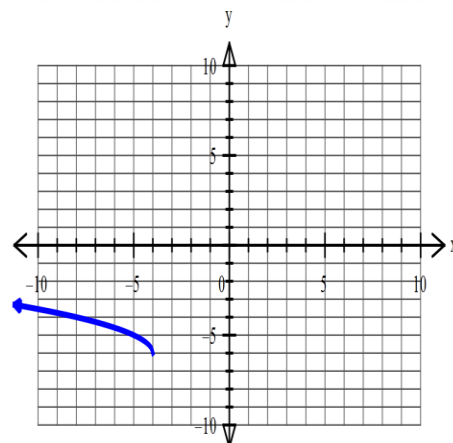
x	$g(x)$
2	$1\frac{2}{3}$
3	$2\frac{1}{3}$
4	3
5	$2\frac{1}{3}$
6	$1\frac{2}{3}$



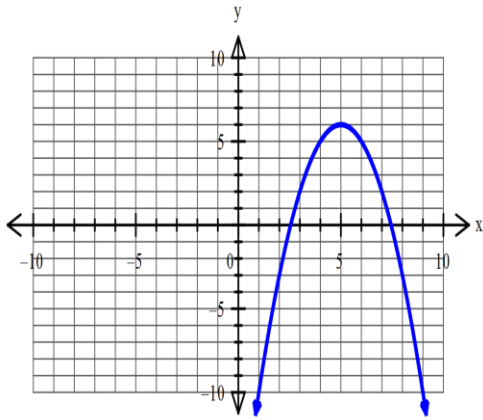
21. Endpoint: (-4, -6) Domain: $(-\infty, -4]$
Range: $[-6, \infty)$

Transformations: reflect over y axis, left 4, down 6,

x	y
-4	-6
-5	-5
-8	-4
-13	-3



22. Vertex: (5, 6) Domain: $(-\infty, \infty)$
Range: $(-\infty, 6]$



x	y
3	2
4	5
5	6
6	5
7	2

23. 2

24. $-\frac{2}{3}$

25. 6 ft/sec

26. The height of the object increased by an average of
6 ft/sec from 1-3 seconds.