MA 138 Exam One Review Problems Answers

1. The teacher divides the answer by three to give the original number. The instructions translate to $\frac{6x-8}{2}$ + 4, which simplifies to 3*x*.

2.

a. 0.45*x*

- b. 0.25(*x*+4)
- 3. 5, 16, and 18

4.

- a. Yes. Every element in the domain is matched with the same element in the ran, but when you consider any *single* element of the domain, that element is paired with exactly one element of the range.
- b. Yes.
- c. No. For example, what is f(14)?

5.

- a. {(2,3), (3,4), (4,3), (5,4)} YES
- b. {(6,4), (4,3), (10,7), (6,3)} NO: 6 is paired with 4 and with 3.
- c. {(3,3), (4,3), (6,3), (7,3)} YES

6.

- a. $\{(1,w), (2, x), (4, z), (5, v), (3, x)\}$ YES
- b. $\{(2, z), (1, y), (5, w), (4, x)\}$ YES
- c. $\{(5,x), (1, v), (3, w), (4, z), (2, y), (3, z)\}$ NO, 3 is paired with w and with z

7.

- a. Yes, t = 2
- b. No. t = 21/5, which is not in the domain.
- c. No. t = 12/5, which is not in the domain.
- d. Yes, t = 4

8. D(t) = 150 + 25(t - 3). D(7) = \$250.

9. 2.

10. Solve each of the following:

- a. x = -4
- b. x = 5/2
- c. x < -12
- d. x > -5/2

11.

- a. YES
- b. YES
- c. YES

12.

- a. No. x = -3/4, which is not in the domain.
- b. Yes, x = 3.
- c. Yes, x = 0

13.

- a. \$55
- b. C(n) = 45 + 0.5(n 20)

14. m = 2, b = 4.

15.

a.
$$y = \frac{7}{3}x - \frac{7}{3}$$

b. $y = \frac{8}{3}x$

16. f(x) = 1.60 + 1.20x

17. y = 4x + 12

18.

a. *m* –3

b. *m* = 0

19.

- a. 13.4
- b. 1.34
- c. 13.4

20.

- a. Can't be. Slope is negative, but slope of the line in the picture is positive. Also, the *y*-intercept is positive, but in the picture, it is negative.
- b. Could be. Slope looks reasonable, and the *y*-intercept looks accurate.
- c. Can't be, the slope is too large. You might not be able to get an accurate slope from the picture, but it is certainly less than 1.