MTH 5
Test 2 Review Problems Answers

1. (a) $y=\frac{5x-23}{9}$ (b) $b=\frac{1}{4}\left(\frac{t}{w}+z\right)$

2. (a) 5mn (b) 17x + 3 (c) (x+6)(x-6) (d) x(2x+3) (e) $\frac{x-5}{17}$

3. 75 **4.** 27 **5.** 84% **6.** $30 **7.** $ 21930

8. (a) 54 (b) 20

9. let **x** be the smaller number, then the equation would be x + (3x-4) = 36
the smaller number is 10, and the larger number is 26

10. let **w** be the width of the rectangle, then length = **2w – 3** inches
the equation would be 2w + 2(2w-3) = 84
The width of the rectangle is 15 in. and the length is 27 in.

11. let **a** be the number of adult tickets sold, then **750-a** student tickets were sold.
The equation would be 8a + 4.50(750-a) = 5300
550 adult tickets and 200 student tickets were sold

12. Let **J** stand for Julia's salary, the Melissa's salary is **J + 100**.
Therefore, the equation would be J + (J + 100) = 720.
Julia's weekly salary is $310 and Melissa's weekly salary is $410.

13. Let **s** stand for the length of the shortest side of the triangle, then the two other sides would be **s + 5** and **2s**. Therefore, we would get the equation of s + (s+5) + 2s = 37
The lengths of the sides are 8, 13 and 16 inches.

14. f(-3) = 36

15. No, it does not

16. No, it does not, because of the two ordered pairs: (1,5) and (1,7). Value of 1 from the domain(input) corresponds to two different values: 5 and 7 from the range (output). This violates the definition of a function.

17. No, it does not. 3 is mapped to two different values: 0 and 4. It violates definition of a function.

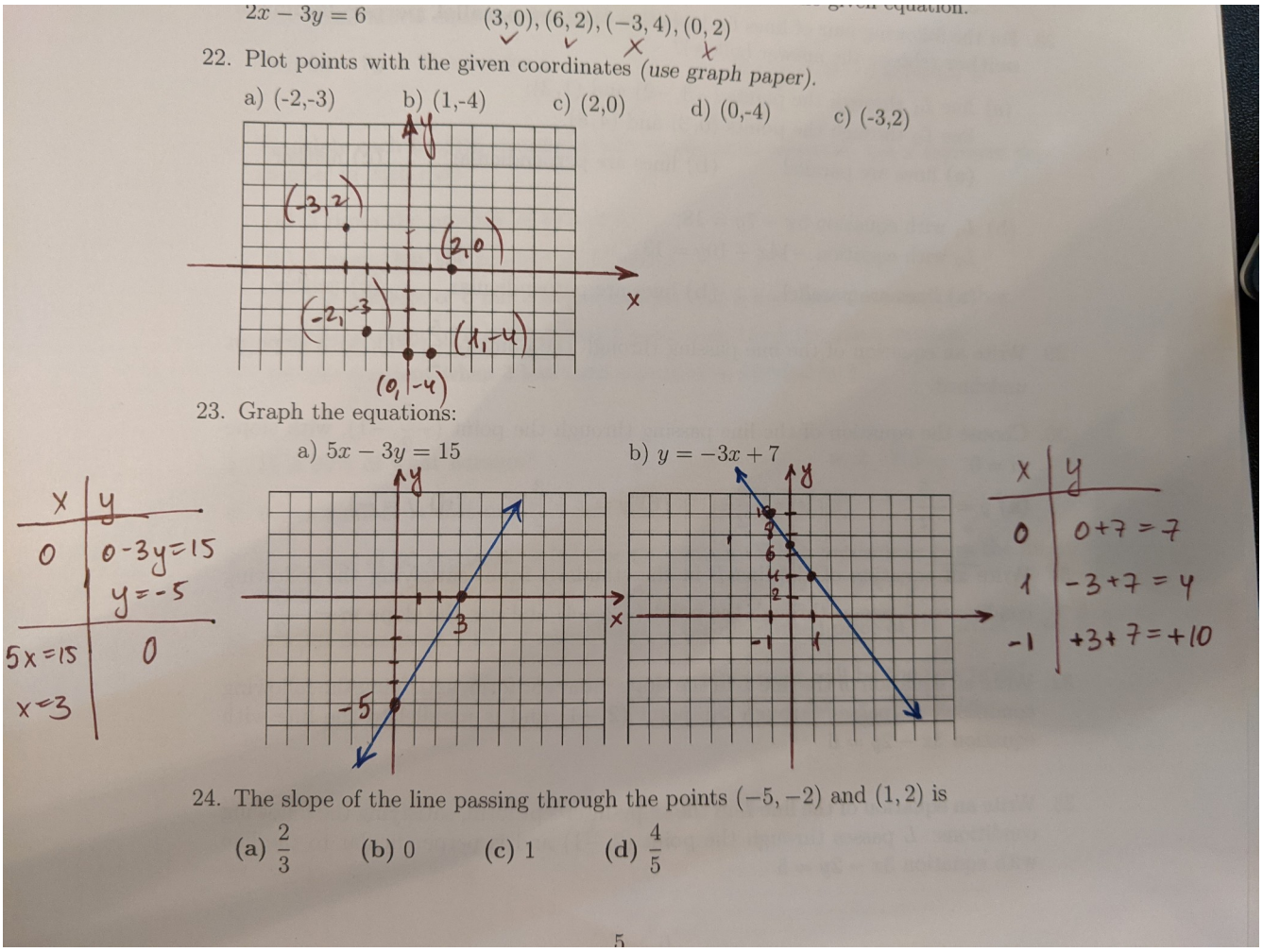
18. The two graphs at the bottom do not represent a function.

19. Only graph B is a graph of a linear function.

20. (1) f(-3) = -2 (2) f(3) = 2 (3) x = 4, 6

21. (3,0) and (6,2) are solutions to the given equation

22. and **23.**:



$2x - 3y = 6$ $(3,0), (6,2), (-3,4), (0,2)$

22. Plot points with the given coordinates *(use graph paper)*.

a) (-2,-3) b) (1,-4) c) (2,0) d) (0,-4) c) (-3,2)

23. Graph the equations:

a) $5x - 3y = 15$ b) $y = -3x + 7$

x	y
0	0-3y=15
	y=-5
5x=15	0
x=3	

x	y
0	0+7=7
1	-3+7=4
-1	+3+7=+10

24. The slope of the line passing through the points $(-5, -2)$ and $(1, 2)$ is

(a) $\frac{2}{3}$ (b) 0 (c) 1 (d) $\frac{4}{5}$

5

24. slope $m=\frac{2}{3}$

25. slope $m=-\frac{4}{7}$

26. slope $m=\frac{1}{2}$

27. slope m = -2

28. slope $m=-\frac{2}{3}$

29. (a) lines are parallel (b) lines are neither parallel nor perpendicular

30. $x=-\frac{5}{2}$

31. y = -1

32. 5x + 2y = -9

33. $y=\frac{3}{2}x-4$

34. $y=-\frac{2}{3}x+\frac{1}{3}$