

### DIRECTIONS

Answers without work to check. If you cannot find your mistake then please seek help EARLY! This assignment is worth 4 pts. 1) did you complete it 2) did you show all the work 3) did you correct in pen 4) did you get 75% of the problems correct?

**3.2 WS A answers. Check the ones you were supposed to do for your assignment.**

1. linear; The graph is a line.
2. nonlinear; The graph is not a line.
3. linear; The rate of change is constant.
4. nonlinear; The rate of change is not constant.
5. nonlinear; cannot be written in the form  
 $y = mx + b$
6. linear; can be written in the form  $y = mx + b$
7. linear; can be written in the form  $y = mx + b$
8. nonlinear; cannot be written in the form  
 $y = mx + b$

9.

$x$	4	8	12	16	20
$y$	-4	0	4	8	12

10. domain: 4, 8, and 12; discrete; consists of only certain numbers in the interval
11. domain:  $0 \leq x \leq 6$ ; continuous; consists of all numbers within an interval

**Pg. 117 answers. Check the ones you were supposed to do for your assignment. Ask questions on any in class that you cannot figure out your mistake.**

17. nonlinear; It cannot be rewritten in the form  $y = mx + b$ .

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18. linear; It can be rewritten as  $y = -3x + 7$ .

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19. linear; It can be rewritten as  $y = -1x + 2$ .

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20. nonlinear; It cannot be rewritten in the form  $y = mx + b$ .

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21. linear; It can be rewritten as  $y = 18x + 12$ .

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22. linear; It can be rewritten as  $y = \frac{9}{5}x + 0$ .

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23. linear; It can be rewritten as  $y = 9x - 13$ .

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24. nonlinear; It cannot be rewritten in the form  $y = mx + b$ .

25. A, C, F; None of these can be rewritten in the form  
 $y = mx + b$ .

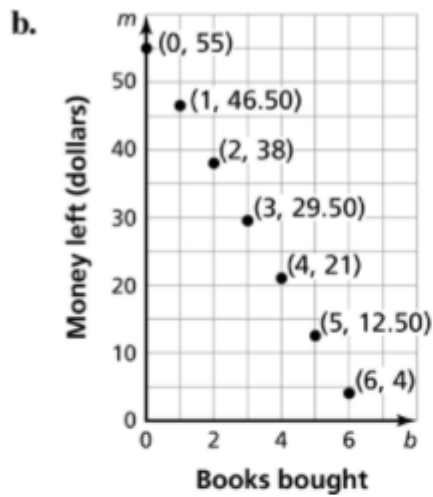
26. 2, 5, 8

32. discrete; The number of relay teams must be a whole number.

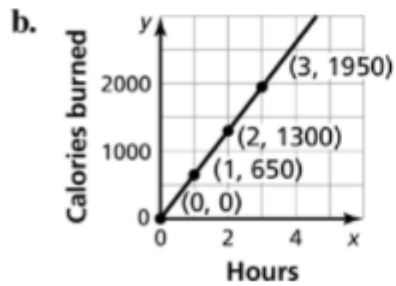
33. There is no point with an  $x$ -value of 2.5; 2.5 is not in the domain.

34. The graph shows a continuous domain; The graph ends at  $x = 6$ , so the domain is  $0 \leq x \leq 6$ .

35. a. 0, 1, 2, 3, 4, 5, 6; discrete; The number of books must be a whole number.

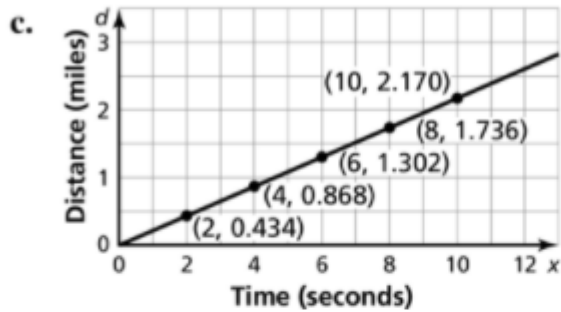


36. a.  $x \geq 0$ ; continuous; The time can be any number of hours greater than or equal to 0.



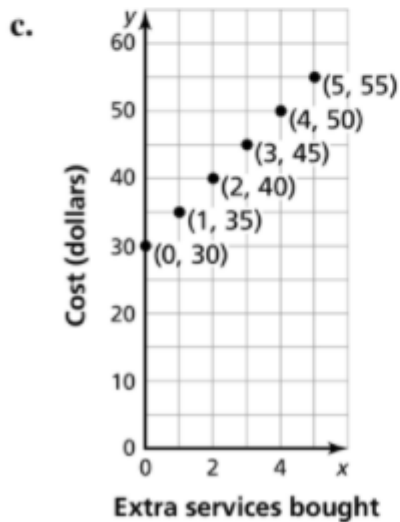
37. a. yes; As  $t$  increases by 2,  $d$  increases by 0.434. The rate of change is constant.

b.  $t \geq 0$ ; continuous; The time can be any value greater than or equal to 0.



38. a. yes; The equation can be rewritten as  $y = 5x + 30$ .

b. 0, 1, 2, 3, 4, 5; discrete; The number of extra services must be a whole number.



**39.** *Sample answer:* The number of hours on a parking meter is a function of the number of tokens used, 4 tokens for 1 hour and a maximum time of 2 hours; discrete; The number of tokens used must be 0, 4, or 8.

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**40.** *Sample answer:* The temperature of a substance in degrees Celsius as a function of time in minutes; continuous; The time can be any value between 0 and 6 minutes.

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**41.** *Sample answer:* The depth (in feet) of a scuba diver returning to the surface of an ocean as a function of the time; continuous; The time can be any value from 0 to 30.

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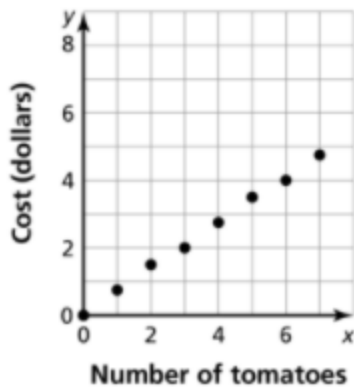
**42.** *Sample answer:* The total discount on gloves as a function of the number of gloves purchased on sale, where a discount of \$10 per pair is applied after paying full price for the first pair, with a maximum of 5 pairs; discrete; The number of gloves bought must be an even number no more than 10.

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**43.** **a.** 51.00  
**b.** \$10.20

44. a. nonlinear; As  $t$  increases by 2,  $d$  increases by different amounts. The rate of change is not constant.
- b. yes; Using  $d = 50t$ , Car A has traveled a shorter distance for each of the times given in the chart for Car B.
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50. *Sample answer:*



The tomatoes are sold for \$0.75 each or 3 for \$2.00.

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51. linear; As  $x$  increases by 1,  $y$  increases by 4. The rate of change is constant.

52. a. Your friend ran farther in the same amount of time; You run at a constant rate and your friend does not; Your graph is a line, and your friend's graph is not a line; A person may not run at a constant rate because of fatigue.
- b. The domain for both functions is  $0 \leq x \leq 60$ ; You both run for a total of 60 minutes.
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53. *Sample answer:* how long it takes an ice cube to melt as a function of its temperature in degrees Celsius