Name: Due Date: Teacher: Parent Sign:

Answers

1. $y = 5x$

2. $C = 7b$

3. $y = x - 4$

4. $P = 4s$

5. $m = 60h + 30$

6. $F = 3 + 2m$

7. $y = (\frac{1}{2})x$ or $y = \frac{x}{2}$

8. $p = 2b + 3t$

9. $A = 2t + 8$

10. $F = (\frac{9}{5})C + 32$

11. Equation $y = 2x + 2$. When $x = 6$, $y = 14$.

12. Equation $y = 3x + 5$. When $x = 5$, $y = 20$.

13. Rule $y = 3x$. When $x = 10$, $y = 30$.

14. $t = 3n + 4$. When $n = 4$, $t = 16$.

15. $y = 5x$. When $x = 7$, $y = 35$.

16. $y = 3x + 1$. When $x = 5$, $y = 16$.

17. $T = 8t$. For $t = 6$, $T = \$48$.

18. $m = 2d$. To run 14 miles: $d = 7$ days.

19. $A = l \cdot w$ and $l = 4w$ so $A = 4w^2$. When $w = 3$, $A = 36$.

20. Yes: For (3,7), $2 \cdot 3 + 1 = 7$ (on the line). For (4,9), $2 \cdot 4 + 1 = 9$ (on the line).

21. $y(0) = -2$. $y(3) = 10$. For $y = 10$, $4x - 2 = 10 \rightarrow 4x = 12 \rightarrow x = 3$.

22. If $p = 54$ then $54 = 6n \rightarrow n = 9$. If $n = 7$ then $p = 42$.

23. For $t = 3$, $C = 12 + 4 \cdot 3 = 24$. If $C = 28$: $12 + 4t = 28 \rightarrow 4t = 16 \rightarrow t = 4$ hours.

24. $y = 2x - 3$. When $x = 5$, $y = 7$. When $y = 11$: $2x - 3 = 11 \rightarrow 2x = 14 \rightarrow x = 7$.

25. $12.5 + 2.5w = 22.5 \rightarrow 2.5w = 10 \rightarrow w = 4$ weeks.

26. 18 cups $\div 3 \frac{cups}{batch} = 6$ batches.

27. Rule $y = 3x - 1$. For input 5, output = 14.

28. Rule $y = 2x$. For $y = 14$, $x = 7$.

29. $y = 3x$ is proportional (passes through origin). $y = 3x + 2$ is not proportional ($y \neq 0$ when $x = 0$).

30. Yes it is proportional. Constant of proportionality = 4 ($y = 4x$).

31. $p = 6d + 15$. For $d = 3$, $p = 33$.

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32. $C = 10 + 0.05 \cdot 200 = 10 + 10 = \$20$.

33. Yes: $\left(\frac{1}{3}\right) \cdot 6 + 2 = 2 + 2 = 4 \rightarrow (6,4)$ is on the line.

34. $C = 2.50 + 1.20m$. For 5 miles: $C = 2.50 + 1.20 \cdot 5 = 2.50 + 6.00 = \$8.50$.

35. nth term: $a\_n = 4n + 3$ (since $4 \cdot 1 + 3 = 7$). 6th term $= 4 \cdot 6 + 3 = 27$.

36. $x = 3 \rightarrow y = -2 \cdot 3 + 10 = 4$. $x = 6 \rightarrow y = -12 + 10 = -2$.

37. $k = \frac{y}{x} = \frac{12}{3} = 4$, so $y = 4x$. For $x = 7$, $y = 28$.

38. $54 \div 6 = 9$ boxes.

39. $y = 4x - 5$. For $x = 3$, $y = 12 - 5 = 7$.

40. Yes, linear. Equation $y = 3x + 2$.

41. $t = 250 - 15p$. For $p = 5$: $t = 250 - 75 = 175$.

42. $\left(\frac{x}{2}\right) + 4 = 9 \rightarrow \frac{x}{2} = 5 \rightarrow x = 10$.

43. $y = 2x + 1$. For $x = 10$, $y = 21$.

44. $m = \frac{210}{30} = 7$ minutes.

45. Yes: $0.5 \cdot 4 + 3 = 2 + 3 = 5 \rightarrow (4,5)$ is on the line.

46. For $y = 3x$ at $x = 0 \rightarrow y = 0$. For $y = 3x + 6$ at $x = 0 \rightarrow y = 6$.

47. $d = 60 \cdot 2.5 = 150$ km.

48. $x - 7 = 0 \rightarrow x = 7$.

49. If x increases by 2, y increases by $3 \cdot 2 = 6$.

50. Equation $y = 3x + 2$. Not proportional (because y   0 when $x = 0$).