

Name: _____

Due Date: _____

Teacher: _____

Parent Sign: _____

Questions

1. Write an equation for: "y is 5 times x."
2. Write an equation for: "The total cost C (dollars) is \$7 per book times b books."
3. Write an equation for: "A number y is x minus 4."
4. Write an equation for the perimeter P of a square with side s.
5. Write an equation for minutes m in terms of hours h if $m = 60$ hours plus 30 extra minutes.
6. Write an equation for a taxi fare F that has a \$3 base plus \$2 per mile m.
7. Write an equation for: "y is half of x."
8. Write an equation for total points p if $p = 2 \times$ baskets b + $3 \times$ three-pointers t.
9. Write an equation for total apples A if A is 8 more than twice the number of trees t.
10. Write the equation that converts Celsius C to Fahrenheit F: $F = ?$ (use the common formula).
11. Table: x: 1, 2, 3, 4 \rightarrow y: 4, 6, 8, 10. Find the rule (equation) and predict y when x = 6.
12. Table: x: 0, 1, 2, 3 \rightarrow y: 5, 8, 11, 14. Find the equation and y when x = 5.
13. Table: x: 2, 4, 6 \rightarrow y: 6, 12, 18. Find the rule and y when x = 10.
14. Table: n: 1, 2, 3 \rightarrow t: 7, 10, 13. Find the equation and t when n = 4.
15. Table: x: 0, 1, 2, 3 \rightarrow y: 0, 5, 10, 15. Find the equation and y when x = 7.
16. Pattern: Start at 4 and add 3 each step. If x = step number (1st step x=1), write y as a function of x and find y when x = 5.
17. Each concert ticket costs \$8. Write the equation for total cost T in terms of tickets t, and find T for t = 6.
18. Sarah runs 2 miles each day. Write an equation for total miles m after d days. How many days to run 14 miles?
19. Rectangle: length $l = 4w$ where w is width. Write area A in terms of w, then find A when w = 3.
20. Given the equation $y = 2x + 1$, is the ordered pair (3, 7) on the line? Is (4, 9) on the line?
21. Given $y = 4x - 2$, find y when x = 0 and when x = 3. Find x when y = 10.
22. Given $p = 6n$, if p = 54 find n. If n = 7 find p.
23. A rental costs \$12 plus \$4 per hour: $C = 12 + 4t$. Find C for t = 3 and find t if C = 28.
24. Write an equation for "y is 3 less than twice x." Then find y when x = 5 and find x when y = 11.
25. A plant is 12.5 cm tall and grows 2.5 cm per week: $h = 12.5 + 2.5w$. Find w when h = 22.5 cm.
26. A recipe uses 3 cups of flour per batch: $F = 3b$. How many batches with 18 cups of flour?
27. Input-output: 1 \rightarrow 2, 2 \rightarrow 5, 3 \rightarrow 8. Find the rule (equation) and output when input = 5.
28. Table: x: 1, 3, 5 \rightarrow y: 2, 6, 10. Find the equation and find x when y = 14.
29. Which of these is a proportional relationship: $y = 3x$ or $y = 3x + 2$? (Choose and briefly justify by number test.)
30. Table: x: 0, 1, 2, 3 \rightarrow y: 0, 4, 8, 12. Is this proportional? Find the constant of proportionality.



Math Worksheet for 6th Grade

Analyzing relationships between variables

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31. Write an equation: "Pages read p is 15 more than 6 times days d ": $p = ?$. Find p when $d = 3$.
32. A phone plan costs \$10 per month plus \$0.05 per text t : $C = 10 + 0.05t$. Find cost for $t = 200$.
33. Given $y = (\frac{1}{3})x + 2$, is $(6, 4)$ on the line?
34. Taxi: \$2.50 base + \$1.20 per mile m . Write the equation and find cost for 5 miles.
35. Sequence: 7, 11, 15, 19,... Write the equation for the n th term if n starts at 1, and find the 6th term.
36. Given $y = -2x + 10$, find y when $x = 3$ and when $x = 6$.
37. y is directly proportional to x . If $y = 12$ when $x = 3$, write the equation and find y when $x = 7$.
38. Juice packs: each box has 6 drinks: $D = 6b$. If you need 54 drinks, how many boxes?
39. Function machine: multiply input x by 4 then subtract 5 gives y . Write the equation and find y when $x = 3$.
40. Table: $x: 1, 2, 3, 4 \rightarrow y: 5, 8, 11, 14$. Is the relationship linear? Give the equation.
41. Which equation represents: "total t is 250 minus \$15 per person p "? Then find t if $p = 5$.
42. Given $y = (\frac{x}{2}) + 4$, find x when $y = 9$.
43. Table: $x: 2, 4, 6 \rightarrow y: 5, 9, 13$. Find the equation and y when $x = 10$.
44. A printer prints 30 pages per minute: $p = 30m$. How many minutes to print 210 pages?
45. Given $y = 0.5x + 3$, is $(4, 5)$ on the line?
46. Compare $y = 3x$ and $y = 3x + 6$: what is y for each when $x = 0$? (Give both values.)
47. A car travels at $60 \frac{km}{h}$: distance $d = 60t$. How far in 2.5 hours?
48. For $y = x - 7$, which x gives $y = 0$?
49. If $y = 3x + 4$, how much does y increase when x increases by 2?
50. Table: $x: 0, 1, 2, 3 \rightarrow y: 2, 5, 8, 11$. Find the equation and state whether it is proportional.