

## Math Worksheet for 9th Grade

### Substitution and evaluating expressions

1. Evaluate  $3x + 2y$  for  $x = 4$ ,  $y = 5$ .
2. Evaluate  $5x - y$  for  $x = 7$ ,  $y = 3$ .
3. Evaluate  $-2x + 4y$  for  $x = -3$ ,  $y = 6$ .
4. Evaluate  $x^2 + 2y$  for  $x = 3$ ,  $y = 4$ .
5. Evaluate  $2xy$  for  $x = 5$ ,  $y = -2$ .
6. Evaluate  $(x + y)^2$  for  $x = 2$ ,  $y = 3$ .
7. Evaluate  $(3x)/y$  for  $x = 9$ ,  $y = 3$ .
8. Evaluate  $x/(2y)$  for  $x = 8$ ,  $y = 2$ .
9. Evaluate  $4(x - y)$  for  $x = 10$ ,  $y = 6$ .
10. Evaluate  $(x^2 - y^2)/(x - y)$  for  $x = 7$ ,  $y = 4$ .
11. Evaluate  $0.5x + 1.25y$  for  $x = 4$ ,  $y = 8$ .
12. Evaluate  $1.2x - 0.8y$  for  $x = 5$ ,  $y = 2$ .
13. Evaluate  $x/0.5 + 0.2y$  for  $x = 3$ ,  $y = 10$ .
14. Evaluate  $0.75xy$  for  $x = 4$ ,  $y = 0.8$ .
15. Evaluate  $(x + 0.5y)/2$  for  $x = 6$ ,  $y = 2$ .
16. Evaluate  $-0.3x + 2y$  for  $x = 10$ ,  $y = -1$ .
17. Evaluate  $(3x - y)/4$  for  $x = 8$ ,  $y = 2$ .
18. Evaluate  $5 - (x/y)$  for  $x = 9$ ,  $y = 3$ .
19. Evaluate  $(2x^2 + y)/x$  for  $x = 3$ ,  $y = 5$ .
20. Evaluate  $(x - y)(x + y)$  for  $x = 6$ ,  $y = 2$ .
21. Evaluate  $(\frac{3}{4})x + (\frac{1}{2})y$  for  $x = 8$ ,  $y = 6$ .
22. Evaluate  $x - (\frac{2}{3})y$  for  $x = 9$ ,  $y = 6$ .
23. Evaluate  $(\frac{5}{2})x - (\frac{3}{4})y$  for  $x = 2$ ,  $y = 8$ .
24. Evaluate  $x/y + y/x$  for  $x = 4$ ,  $y = 2$ .
25. Evaluate  $1.5x + 0.25y$  for  $x = 4$ ,  $y = 12$ .
26. Evaluate  $x/1.2 - 0.4y$  for  $x = 6$ ,  $y = 5$ .
27. Evaluate  $(x + y/3)/2$  for  $x = 3$ ,  $y = 9$ .
28. Evaluate  $(7x/8) - (y/4)$  for  $x = 16$ ,  $y = 8$ .
29. Evaluate  $x \div (\frac{3}{5}) + y$  for  $x = 3$ ,  $y = 4$ .
30. Evaluate  $2.5x - 1.75y$  for  $x = 2$ ,  $y = 4$ .
31. Evaluate  $x^2/(2y)$  for  $x = 6$ ,  $y = 3$ .
32. Evaluate  $(\frac{1}{3})x + (\frac{2}{5})y$  for  $x = 9$ ,  $y = 25$ .

Name: \_\_\_\_\_

Due Date: \_\_\_\_\_

Teacher: \_\_\_\_\_

Parent Sign: \_\_\_\_\_

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33. Evaluate  $0.6x + 0.4y$  for  $x = 5$ ,  $y = 15$ .
34. Evaluate  $(x - y)/0.2$  for  $x = 3$ ,  $y = 0.5$ .
35. Evaluate  $x/2 + y/2$  for  $x = 7$ ,  $y = -3$ .
36. Evaluate  $2(x - (\frac{1}{4})y)$  for  $x = 8$ ,  $y = 4$ .
37. Evaluate  $(\frac{5}{6})x + (\frac{1}{3})y$  for  $x = 12$ ,  $y = 9$ .
38. Evaluate  $(xy)/10$  for  $x = 2.5$ ,  $y = 4$ .
39. Evaluate  $0.05x + 0.2y$  for  $x = 200$ ,  $y = 10$ .
40. Evaluate  $(\frac{3}{5})x - 0.1y$  for  $x = 25$ ,  $y = 30$ .
41. Word problem: A bakery sells loaves at \$ $x$  each and muffins at \$ $y$  each. If a customer buys 3 loaves and 5 muffins, evaluate  $3x + 5y$  for  $x = 2.50$ ,  $y = 0.75$ .
42. Word problem: A rectangle has length  $x$  m and width  $y$  m. Perimeter  $P = 2(x + y)$ . Evaluate  $P$  for  $x = 4.5$ ,  $y = 2.25$ .
43. Word problem: Total cost  $C = 4x + 2y$  where  $x$  is the price of a pencil and  $y$  is the price of an eraser. Evaluate  $C$  for  $x = 0.60$ ,  $y = 0.85$ .
44. Word problem: A team pays  $x$  dollars per player and  $y$  dollars per game for equipment. For 12 players and 3 games, total  $T = 12x + 3y$ . Evaluate for  $x = 15$ ,  $y = 7.50$ .
45. Word problem: A paint mixture uses  $x$  liters of pigment and  $y$  liters of solvent. Total volume  $V = x + y$ . Evaluate for  $x = 1.25$ ,  $y = 0.75$ .
46. Word problem: Distance  $D = \text{speed} \times \text{time}$ . Evaluate  $D$  for  $x = 60$  (km/h),  $y = 2.5$  h.
47. Word problem: A grade is calculated as  $0.6x + 0.4y$  where  $x$  is the exam score and  $y$  the quiz average. Evaluate for  $x = 85$ ,  $y = 90$ .
48. Word problem: Ticket revenue  $R = \text{number sold} \times \text{price}$ . Evaluate for  $x = 120$ ,  $y = 9.50$ .
49. Word problem: Daily water needed  $W = 0.75x + 0.2y$  where  $x$  is number of large plants and  $y$  number of small plants. Evaluate for  $x = 10$ ,  $y = 24$ .
50. Word problem: Two runners ran distances  $x$  and  $y$  kilometers. Combined distance  $D = x + y$ . Evaluate for  $x = 5.20$ ,  $y = 7.35$ .