

1. Write in exponential notation: $2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot x \cdot x \cdot y$
2. Write in expanded notation: $2^4 x^3 y^3$
3. Evaluate: $3 \cdot 4^2$
4. Simplify: $6 \div 3 \cdot (2 + 5) - 4$
5. Evaluate: $(2x + 3y)^2$ when $x = 4$, $y = 2$
6. Evaluate: a) $-|2|$ b) $-|-2|$ c) $-(2)$ d) $-(-2)$
7. $5 + (-9)$
8. $-4 + (-3)$
9. $2 - 5$
10. $-2 - (-5)$
11. $(-2)(3)(-4)$
12. $\frac{-20}{-5}$
13. $\frac{20}{-5}$
14. $(-3)^2$
15. -3^2
16. Simplify: $2x + 3y + x - 5y$
17. Simplify: $2(3x - 4y)$
18. Simplify: $4 - 2(3 + x) - 5x$
19. $10.42 - 3.445$
20. $(0.34)(0.6)$
21. $864 \div 57.6$
22. Write $\frac{1}{8}$ as a decimal.
23. Reduce $\frac{12xy}{16x}$
24. $\frac{1}{2} \cdot \frac{4}{5}$
25. $\frac{3}{4} \div 6$
26. $\frac{1}{4} + \frac{3}{8}$ 26b. $\frac{1}{8} + \frac{7}{12x}$

27. $\frac{4}{9} - \frac{3x}{18}$

27b. $\frac{2}{7} - \frac{5}{x}$

28. Evaluate: $\left(-\frac{1}{3}\right)^3$

29. Write an equivalent fraction to $\frac{1}{2}$ with a denominator of 8.

30. Simplify: $\frac{\frac{4}{3}}{\frac{1}{8}}$

31. Round 42.657 to nearest hundredth.

32. Simplify: $\sqrt{49}$

33. Estimate: $\sqrt{65}$

34. Find the area of a rectangle 7.2 inches long and 2.4 inches wide.

35. Find the circumference of a circle whose radius is 4 inches.

36. Write the ratio as a fraction:

a) 9 inches to 12 inches

b) 900 meters to 700 meters

37. Write each rate as a fraction:

a) 6 printers for 28 computers

b) 150 students for 8 advisors

38. Write as a unit rate:

a) 420 feet in 3 seconds

b) \$0.87 for 3 apples

39. Find each unit rate and decide which is the better buy.

Steak sauce: \$1.19 for 8 ounces or \$1.89 for 12 ounces

40. Write the ratio as a fraction: $6\frac{2}{3}$ days to $1\frac{1}{4}$ days.

41. Solve the proportions:

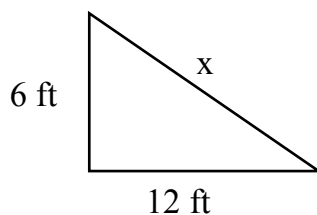
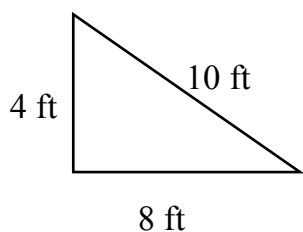
a) $\frac{8}{24} = \frac{x}{9}$

b) $\frac{4.2}{8.4} = \frac{x}{10}$

c) $\frac{3.5}{12.5} = \frac{x}{25}$

42. A basketball player makes 3 free throws out of every 4 attempts. If he made 15 free throw points in a game, find how many free throws he attempted.

43. If the triangles are similar, find the unknown length x .



44. Write as a percent:

a) 0.42

b) 3.7

c) 250

d) $\frac{2}{5}$

e) $\frac{5}{14}$ (Round to nearest hundredth)

f) $1\frac{3}{5}$

45. Write as a decimal:

a) 65%

b) 3%

46. Write as a fraction in lowest terms:

a) 11%

b) 8%

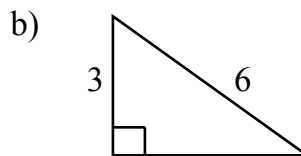
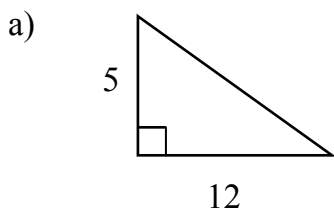
c) 3.4%

47. Convert:
- 108 inches to ft.
 - 72 feet to yards
 - 6.25 ft to inches
 - 4 miles to yards
 - 52 ft. = _____ yd _____ ft

48. Convert:
- 42 meters to centimeters
 - 4700 millimeters to meters
 - 525 meters to kilometers

49. What is 30% of 17?
50. 30 is 5% of what number?
51. 264 is what percent of 33?

52. Find the length of the missing side in each right triangle.



53. Solve: $-12 = x + 4$
54. Solve: $y - 8 = -5 - 1$
55. Solve: $-7 + 10 = 4x - 6 - 3x$
56. Solve: $-3y = -27$
57. Solve: $20 - 2 = -4x + 10$
58. Solve: $2x - 1 = -7$
59. Solve: $-2x + 5 = -7$
60. Solve: $3(5x - 1) - 2 = 13x + 3$
61. Solve: $9 - 3x = 14 + 2x$
62. Solve: $\frac{4}{7}x = -8$
63. Solve: $\frac{1}{2} - \frac{3}{5} = \frac{x}{10}$
64. Solve: $2x - 4.2 = 8.6$

1. $2^3 5^2 x^2 y$
2. $2 \bullet 2 \bullet 2 \bullet 2 \bullet x \bullet x \bullet x \bullet y \bullet y \bullet y$
3. 48
4. 10
5. 196
6. a) -2 b) -2 c) -2 d) 2
7. -4
8. -7
9. -3
10. 3
11. 24
12. 4
13. -4
14. 9
15. -9
16. $3x - 2y$
17. $6x - 8y$
18. $-2 - 7x$
19. 6.975
20. 0.204
21. 15
22. 0.125
23. $\frac{3}{4}y$ or $\frac{3y}{4}$
24. $\frac{2}{5}$
25. $\frac{1}{8}$
26. $\frac{5}{8}$ 26b. $\frac{3x+14}{24x}$
27. $\frac{8-3x}{18}$ 27b. $\frac{2x-35}{7x}$
28. $-\frac{1}{27}$
29. $\frac{4}{8}$
30. $\frac{2}{3}$
31. 42.66
32. 7
33. ≈ 8
34. 17.28 sq. in.
35. $8\pi \approx 25.12$ inches
36. a) $\frac{3}{4}$ b) $\frac{9}{7}$
37. a) $\frac{3 \text{ printers}}{14 \text{ computers}}$ b) $\frac{75 \text{ students}}{4 \text{ advisors}}$
38. a) 140 ft/sec b) \$0.29 per apple
39. 8 ounces is better buy (has a lower unit rate $0.14875 < 0.1575$)
40. $\frac{6\frac{2}{3}}{1\frac{1}{4}} = \frac{\frac{20}{3}}{\frac{5}{4}} = \frac{20}{3} \div \frac{5}{4} = \frac{20}{3} \cdot \frac{4}{5} = \frac{16}{3}$
41. a) $x = 3$ b) $x = 5$ c) $x = 7$
42. $\frac{3 \text{ makes}}{4 \text{ attempts}} = \frac{15}{x \text{ attempts}}$ $x = 20 \text{ attempts}$
43. $\frac{10}{4} = \frac{x}{6}$ $x = 15$

44. a) 42% b) 370% c) 25000% d) 40% e) 35.71%
f) $1\frac{3}{5} = \frac{8}{5} \rightarrow \% \ 160\%$

45. a) 0.65 b) 0.03

46. a) $\frac{11}{100}$ b) $\frac{8}{100} = \frac{2}{25}$ c) $\frac{3.4}{100} = \frac{34}{1000} = \frac{17}{500}$

47. a) 9 ft b) 24 yds c) 75 in d) 7040 yds e) 17 yd 1 ft

48. a) 4200 centimeters b) 4.7 meters c) 0.525 kilometer

49. 5.1

50. 600

51. 800%

52. a) 13 b) ≈ 5

53. $x = -16$

54. $y = 2$

55. $x = 9$

56. $y = 9$

57. $x = -2$

58. $x = -3$

59. $x = 6$

60. $x = 4$

61. $x = -1$

62. $x = -14$

63. $x = -1$

64. $x = 6.4$