

le Solve each problem using a proportion.

1. What percent of 40 is 20?
2. What percent of 80 is 20?
3. 15 is what percent of 45?
4. What percent of 50 is 10?
5. What percent of 24 is 6?
6. 18 is what percent of 90?
7. What is 40% of 20?
8. What is 80% of 20?
9. 30% of 70 is what number?
10. What is 40% of 70?
11. 8% of 125 is what number?
12. 16% of 125 is what number?

3 Write a proportion and solve to find the whole.

13. 20 is 40% of what number?
 14. 20 is 80% of what number?
 15. 15% of what number is 24?
 16. 20% of what number is 48?
 17. 60% of what number is 42?
 18. 42 is 30% of what number?
19. Teresa worked 18 hours at a day-care center as a volunteer. This represents 60% of her school's requirement for community service. How many hours of community service does her school require?

Write an equation and solve.

20. 50 is 25% of what number?
21. 25 is 50% of what number?
22. 96 is what percent of 150?
23. 45 is what percent of 60?
24. What is 5% of 300?
25. What is 5% of 200?

Solve each percent problem.

26. What is 150% of 14? 27. 28 is what percent of 14?
28. 18 is 450% of what number? 29. 75 is what percent of 25?
30. What is 0.6% of 70? 30. 2.1 is what percent of 700?

Estimate each answer.

32. What is 51% of 400? 33. 24.8% of 400 is what number?
34. 67.18% of 33 is what number? 35. What is 74% of 201?
36. 9.8% of 680 is what number? 37. What is 39% of 80.3?

38. The freshman class of Mann High School has 1218 students. The graduation rate for the school is 82% of the freshman class. Estimate the number of students who will graduate.

Write a proportion or an equation and find each answer.

39. 3 is 75% of what number? 40. What percent of 75 is 300?
41. What is 0.2% of 900? 42. 1.8 is 2% of what number?
43. 988 is what percent of 1000? 44. 140% of 84 is what number?

Critical Thinking Use estimation to decide which number is closer to the exact answer. Explain your reasoning.

45. 51.3% of 122; 60 or 62 46. 23.9% of 84; 20 or 22
47. 9.79% of 740; 73 or 75 48. 76.02% of 240; 175 or 185

49. **Sales Tax** Jane, who lives in Florida, plans to buy a car that costs \$13,500. Her friend Julie lives in Georgia. She also plans to buy a car for \$13,500. How much more will Jane pay in sales tax?
50. **Sales** Suppose you work in an electronics store and earn a 6% commission on every item you sell. How much do you earn if you sell a \$545 sound system?
51. **Sales** Juan earns a 5.5% commission on his bicycle sales. In September, he earned \$214.28 in commissions. What were his sales for the month?
52. **Writing** Estimate a 15% tip for a restaurant bill of \$8.25. Explain your method.
53. **Finance** The formula for simple interest is $I = prt$, where I is the interest, p is the principal, r is the interest rate per year, and t is the time in years.
- You invest \$550 for three years. Find the amount of simple interest you earn with an annual interest rate of 4.5%.
 - Suppose you invested \$900 for two years. You earned \$67.50 in simple interest. What was the annual rate of interest?
 - You invest \$812 with an annual interest rate of 6.5%. You earned \$316.68 in simple interest. How many years was the money invested?

Finance Use the formula for simple interest, $I = prt$. Find each missing value.

54. $I = \square$, $p = \$340$, $r = 6\%$, $t = 3$ yr
55. $I = \$312.50$, $p = \square$, $r = 5\%$, $t = 5$ yr
56. $I = \$392$, $p = \$1400$, $r = \square$, $t = 4$ yr
57. $I = \$1540$, $p = \$22,000$, $r = 3.5\%$, $t = \square$