

6.3 Exercises

FOR
EXTRA
HELP



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Find the unknown value in the percent proportion $\frac{\text{part}}{\text{whole}} = \frac{\text{percent}}{100}$. Round to the nearest tenth if necessary. If the answer is a percent, be sure to include a percent sign (%). See Example 1.

1. part = 5, percent = 10

2. part = 20, percent = 25

3. part = 30, percent = 20

4. part = 25, percent = 25

5. part = 28, percent = 40

6. part = 11, percent = 5

7. part = 15, whole = 60

8. part = 105, whole = 35

9. part = 36, whole = 24

10. part = 1.5, whole = 4.5

11. part = 9.25, whole = 27.75

12. part = 12.8, whole = 9.6

13. whole = 52, percent = 50

14. whole = 160, percent = 35

15. whole = 72, percent = 30

16. whole = 115, percent = 38

17. whole = 94.4, part = 25

18. whole = 89.6, part = 50

Solve each problem. If the answer is a percent, be sure to include a percent sign (%). See Examples 2–4.

19. Find the whole if the part is 46 and the percent is 40.

20. The percent is 45 and the whole is 160. Find the part.

21. The whole is 5000 and the part is 20. Find the percent.

22. Suppose the part is 15 and the whole is 2500. Find the percent.

23. Find the percent if the whole is 4300 and the part is $107\frac{1}{2}$.

24. What is the part, if the percent is $12\frac{3}{4}$ and the whole is 5600?

25. The whole is 6480 and the part is 19.44. Find the percent.

26. Suppose the part is 281.25 and the percent is $1\frac{1}{4}$. Find the whole.

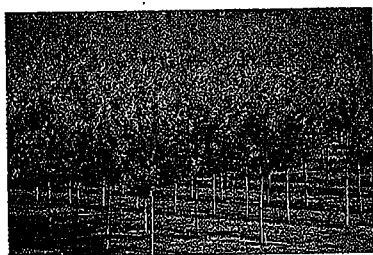
In Exercises 27–42, set up the percent proportion, and write “unknown” for the value that is not given. Recall that the percent proportion is $\frac{\text{part}}{\text{whole}} = \frac{\text{percent}}{100}$. Do not try to solve for any unknowns. See Examples 2–4.

27. 10% of how many bicycles is 60 bicycles?
28. 58% of how many preschoolers is 203 preschoolers?
29. 75% of \$800 is \$600.
30. 93% of \$1500 is \$1395.
31. What is 25% of \$970?
32. What is 61% of 830 homes?
33. 12 injections is 20% of what number of injections?
34. 92 servings is 26% of what number of servings?
35. 34 trophies is 50% of 68 trophies.
36. 410 pallets is $33\frac{1}{3}\%$ of 1230 pallets.
37. What percent of \$296 is \$177?
38. What percent of \$121 is \$30?
39. 54.34 is 3.25% of what number?
40. 16.74 is 11.9% of what number?
41. 0.68% of \$487 is what amount?
42. What amount is 6.21% of \$704.35?

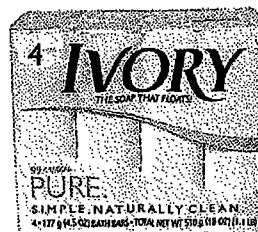
43. Identify the three components in a percent problem. In your own words, write one sentence telling how you will identify each of these three components.
44. Write one short sentence or statement using numbers and words. The statement should include a percent, a whole, and a part. Identify each of these three components.

Set up the percent proportion for each application problem. Do not try to solve for any unknowns.

45. In a tree-planting project, 640 of the 810 trees planted were still living one year later. What percent of the trees planted were still living?



46. Ivory Soap is $99\frac{44}{100}\%$ pure. If a bar of Ivory Soap weighs 9 ounces, how many ounces are pure? (Source: Procter & Gamble.)



47. Of the 142 people attending a movie theater, 86 bought buttered popcorn. What percent bought buttered popcorn?

48. On her first check from the Pizza Hut Restaurant, 15% is withheld from Maria's total earnings of \$225. What amount is withheld?

49. Of the customers buying a salad at McDonald's, 23% prefer Newman's Own Light Salad Dressing. If the total number of salad customers is 610, find the number who prefer Newman's Own Light Dressing.



50. Of the total candy bars contained in a vending machine, 240 bars have been sold. If 25% of the bars have been sold, find the total number of candy bars that were in the machine.



51. There are 680 computer chips in a secured storage area designed to hold 2000 computer chips. What percent of the storage area is filled?

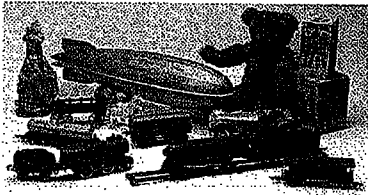
52. There have been 36 cups of coffee served from a banquet-sized coffee pot. If this is 30% of the capacity of the pot, find the capacity of the pot.

53. In a recent survey of 480 adults, 55% said that they would prefer to have their wedding at a religious site. How many said they would prefer the religious site? (Source: National Family Opinion Research.)

55. In a poll of 822 people, 49.5% said that they get their news from television. Find the number of people who said they get their news from television. (Source: Brills Content.)

57. A medical clinic found that 16.8% of the patients were late for their appointments. The number of patients who were late was 504. Find the total number of patients.

59. Jerry Azzaro has listed 680 antique toys on eBay. If 45% of these were antique toy trains, find the number that were toy trains.



54. Sue Ann needs 64 credits to graduate. If she has completed 48 of the credits needed, what percent of the credits has she already completed?

56. The sales tax on a new car is \$820. If the sales tax rate is 5%, find the price of the car before the sales tax is added.

58. The state troopers tested 924 cars for safety. There were 231 cars that failed the safety test for one or more reasons. Find the percent of cars that failed the test.

60. There are 1470 students at American River College who have purchased textbooks from amazon.com. If the number of students at the college is 24,650, what percent have made textbook purchases from amazon.com?

