



Chapter Test



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Solve each equation. Check your answers.

- 1. $5n = -20$
- 2. $t + 7 = 4$
- 3. $\frac{r}{3} = 21$
- 4. $u - 8 = -15$
- 5. $-x + 4 = -7$
- 6. $-2z + 1 = -9$
- 7. $3w + 2 - w = -4$
- 8. $\frac{1}{4}(k - 1) = 10$
- 9. $6(y + 3) = 24$
- 10. $\frac{5n + 1}{8} = \frac{1}{2}$
- 11. If $2t + 3 = -9$, what is the value of $-3t - 7$?
- 12. Solve $2x - 4 = -7$. Justify each step.

Define a variable and write an equation to model each situation. Then solve.

- 13. Your chorus holds a car wash. They have \$25.00 for making change. At the end of the car wash, they have \$453.50. How much money did they make?
- 14. **Truck Rental** The rate to rent a certain truck is \$55 per day and 20¢ per mile. Your family pays \$80 to rent this truck for one day. How many miles did your family drive?
- 15. **Entertainment** Movie tickets for an adult and three children cost \$20. An adult's ticket costs \$2 more than a child's ticket. Find the cost of an adult's ticket.

Solve. If the equation is an identity, write *identity*. If it has no solution, write *no solution*.

- 16. $9j + 3 = 3(3j + 1)$
- 17. $2(1 - 2y) = 4y + 18$
- 18. $4v - 9 = 6v + 7$
- 19. $4p - 5 + p = 7 + 5p + 2$
- 20. **Open-Ended** Describe a situation that you can model with the equation $\frac{m}{5} = 4$.
- 21. A taxicab company charges each person a flat fee of \$1.85 plus an additional \$.40 per quarter mile.
 - a. Write a formula to find the total cost for each fare.
 - b. Use this formula to find the cost for 1 person to travel 8 mi.
 - c. **Writing** Is your answer for part (b) the same cost as for 2 people in the same taxi traveling 4 miles? Explain your reasoning.

Use the table below for Exercises 22–23.

Percent of People Who Speak a Language Other Than English at Home

State	Percent
Connecticut	15
Massachusetts	15
Maine	9
New Hampshire	9
New Jersey	20
New York	23
Pennsylvania	7
Rhode Island	17
Vermont	6

SOURCE: U.S. Census Bureau
Go to www.PHSchool.com for a data update.

- 22. Make a stem-and-leaf plot for the data. Find the range.
- 23. Find the mean, median, and mode for the data.

Define a variable and write an equation to model each situation. Then solve.

- 24. **Ticket Sales** Tickets for a high school play are \$3.00 each for students and \$4.00 each for all others. Find the total money collected from ticket sales if 315 student tickets are sold out of a total of 518 tickets.
- 25. Jan is one year younger than her brother Bill and one year older than her sister Sue. The sum of the three children's ages is 57. How old is each child?
- 26. **Labor Costs** Mr. Gomez paid a total of \$267 for the repairs on his car. The cost of the labor was two thirds of the total charge. Find the charge for labor.
- 27. **Travel** At noon, your family leaves Louisville on a trip to Memphis driving at 40 miles per hour. Your uncle leaves Memphis to come to Louisville 2 hours later. He is taking the same route and is driving 60 miles per hour. The two cities are 380 miles apart. At what time do the cars meet?