■■■ *Practice 2-5* *Solving Equations by Adding or Subtracting*

Use mental math to solve each equation.

1. $-52 = -52 + k$ _____

2. $837 = p + 37$ _____

3. $x - 155 = 15$ _____

4. $180 = 80 + n$ _____

5. $2,000 + y = 9,500$ _____

6. $81 = x - 19$ _____

7. $111 + f = 100$ _____

8. $w - 6 = -16$ _____

Solve each equation.

9. $m - 17 = -8$ _____

10. $k - 55 = 67$ _____

11. $-44 + n = 36$ _____

12. $-36 = p - 91$ _____

13. $x - 255 = 671$ _____

14. $19 = c - (-12)$ _____

15. $x + 14 = 21$ _____

16. $31 = p + 17$ _____

17. $-19 = k + 9$ _____

18. $87 + y = 19$ _____

19. $36 + n = 75$ _____

20. $-176 = h + (-219)$ _____

21. $41 + k = 7$ _____

22. $1,523 + c = 2,766$ _____

23. $-88 + z = 0$ _____

24. $-33 + (-7) = 29 + m$ _____

25. $t + (-2) = -66$ _____

26. $-390 + x = 11 - 67$ _____

27. The combined enrollment in the three grades at Jefferson Middle School is 977. There are 356 students in the seventh grade and 365 in the eighth grade. Write and solve an equation to find how many students are in the ninth grade.

Equation _____

Solution _____

2-5 • Guided Problem Solving

GPS **Student Page 89, Exercise 22**

Languages In 1996, 487 million people across the world spoke English. This was 512 million people fewer than the number who spoke Mandarin Chinese. Write and solve an equation to find the number of people n who spoke Mandarin Chinese.

Read and Understand

1. How many people in the world spoke English in 1996? _____

2. What information are you given about the number of people who spoke Mandarin Chinese in 1996? _____

   _____

3. What are you asked to do? _____

   _____

Plan and Solve

4. Use the sentence "In millions, 487 is 512 fewer than the number of people n who spoke Mandarin Chinese" to write an equation that can be solved for n, the number of people who spoke Mandarin Chinese. _____

5. What number should you add to each side of the equation to get the variable n alone on one side? _____

6. Solve the equation for n. _____

7. How many people in the world spoke Mandarin Chinese in 1996? _____

Look Back and Check

8. Subtract 512 million from your answer to Question 7. _____
   The result should be equal to the number of people across the world who spoke English in 1996.

Solve Another Problem

9. There are 32 eighth-grade students enrolled in physical science. This is 119 fewer than the number of students enrolled in Earth science. Write and solve an equation to find the number of students s who are enrolled in Earth science.

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