Skill and Concept Check

1. **Writing Math** Explain what it means to solve an equation.

2. **OPEN ENDED** Write an example of an equation that is easily solved using mental mathematics and an equation that is not as easily solved using mental mathematics.

3. **FIND THE ERROR** Joshua and Ivan had a contest to see who could solve $w - 25 = 50$ the fastest. Their solutions are shown below. Who is correct? Explain.

Joshua	Ivan
w = 25	w = 75

GUIDED PRACTICE

Solve each equation mentally.

4. $y - 18 = 20$ 5. $5 + a = 22$ 6. $w \div 4 = 7$

7. $\frac{r}{9} = 6$ 8. $75 = w + 72$ 9. $69 = 3f$

10. Graph the solution of $x + 5 = 11$.

Name the number that is the solution of the given equation.

11. $x + 15 = 19; 4, 5, 6$ 12. $13k = 80.6; 5.5, 5.8, 6.2$

13. **BASKETBALL** Jason scored 14 more points than David in the last basketball game. If David scored 9 points, how many did Jason score?

Practice and Applications

Solve each equation mentally.

14. $b + 7 = 18$ 15. $8 + x = 15$ 16. $y - 15 = 71$

17. $a - 18 = 20$ 18. $25 - 19 = n$ 19. $24 + 39 = m$

20. $12 \cdot 5 = s$ 21. $n = \frac{30}{6}$ 22. $b - 42 = 84$

23. $7t = 77$ 24. $3d = 99$ 25. $22 + h = 42$

26. $20 = y \div 5$ 27. $16 = \frac{u}{4}$ 28. $\frac{z}{7} = 12$

29. $18j = 360$ 30. $m - 36 = 123$ 31. $108 = 9b$

HOMEWORK HELP

For Exercises	See Examples
14–31	1
32–35	2
40–46	3
36–39	4

Extra Practice
See pages 565, 596.

Graph the solution of each equation on a number line.

32. $w + 3 = 10$ 33. $x - 7 = 11$ 34. $12y = 48$ 35. $11 = 132 \div z$

Name the number that is the solution of the given equation.

36. $13.4 \cdot 9 = h; 117.8, 118.7, 120.6$ 37. $n \div 10 = 4; 20, 30, 40$

38. $9.9 + r = 24.2; 12.7, 14.3, 16.3$ 39. $c - 8 = 17; 15, 25, 35$

40. **ORNAMENTS** Last year, Desiree had 25 glass ornaments. This year, she has 38 ornaments. Solve $25 + n = 38$ to find how many new ornaments Desiree collected.