CHAPTER 1

Practice Test

Find the value of each expression.

1. $[(3 + 6)^2 \div 3] \times 4$
2. $\dfrac{20 + 4 \times 3}{11 - 3}$
3. $0.5(2.3 + 25) \div 1.5$

Evaluate each expression if $a = -9$, $b = \frac{2}{3}$, $c = 8$, and $d = -6$.

4. $\dfrac{db + 4c}{a}$
5. $\dfrac{a}{b^2} + c$

Name the sets of numbers to which each number belongs.

6. $\sqrt{17}$
7. 0.86
8. $\sqrt{64}$

Name the property illustrated by each equation or statement.

9. $(7 \cdot s) \cdot t = 7 \cdot (s \cdot t)$
10. If $(r + s)t = rt + st$, then $rt + st = (r + s)t$.
11. $\left(3 \cdot \frac{1}{3}\right) \cdot 7 = \left(3 \cdot \frac{1}{3}\right) \cdot 7$
12. $(6 - 2)a - 3b = 4a - 3b$
13. $(4 + x) + y = y + (4 + x)$
14. If $5(3) + 7 = 15 + 7$ and $15 + 7 = 22$, then $5(3) + 7 = 22$.

Solve each equation. Check your solution(s).

15. $5t - 3 = -2t + 10$
16. $2x - 7 - (x - 5) = 0$
17. $5m - (5 + 4m) = (3 + m) - 8$
18. $|8w + 2| + 2 = 0$
19. $12\left|\frac{1}{2}y + 3\right| = 6$
20. $2|2y - 6| + 4 = 8$

Solve each inequality. Then graph the solution set on a number line.

21. $4 > b + 1$
22. $3q + 7 \geq 13$
23. $|5 + k| \leq 8$
24. $-12 < 7d - 5 \leq 9$

Solve each inequality. Then graph the solution set on a number line.

25. $|3y - 1| > 5$
26. $5(3x - 5) + x < 2(4x - 1) + 1$

For Exercises 27 and 28, define a variable, write an equation or inequality, and solve the problem.

27. **CAR RENTAL** Ms. Denney is renting a car that gets 35 miles per gallon. The rental charge is \$19.50 a day plus 18¢ per mile. Her company will reimburse her for \$33 of this portion of her travel expenses. Suppose Ms. Denney rents the car for 1 day. Find the maximum number of miles that will be paid for by her company.

28. **SCHOOL** To receive a B in his English class, Nick must have an average score of at least 80 on five tests. What must he score on the last test to receive a B in the class?

Test	Score
1	87
2	89
3	76
4	77

29. **MULTIPLE CHOICE** If $\frac{a}{b} = 8$ and $ac - 5 = 11$, then $bc =$

A 93

B 2

C $\frac{5}{8}$

D cannot be determined

30. **MULTIPLE CHOICE** At a veterinarian's office, 2 cats and 4 dogs are seen in a random order. What is the probability that the 2 cats are seen in a row?

F $\frac{1}{3}$

G $\frac{2}{3}$

H $\frac{1}{2}$

J $\frac{3}{5}$