Mastery Test #3 Review

Evaluate the expression.

1 $3[22 - (7 + 9)]$
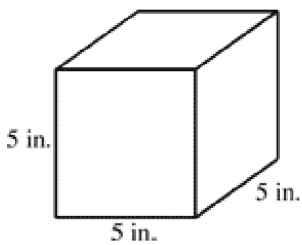
Find the product.

2 $-4(7)(-1)$

Find the quotient.

3 $-369 \div (-9)$

4 Use the formula $V = s^3$ to find the volume of the cube with side length s.

5 in.

5 in.

5 in.

Simplify the expression.

5 $7 \cdot m \cdot 70$

Evaluate the expression when $x = 20$ and $y = -3$.

6 $3x + 2y + 2x$

Use the distributive property to write an equivalent variable expression.
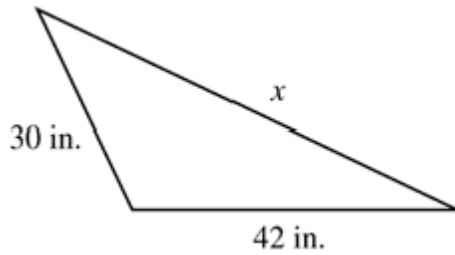
7 $2(x + 4)$

Simplify the expression.

8 $3x + 2(x - 5)$

9 The perimeter of the triangle is 131 inches. Write an equation to find the side length labeled x. Then solve the equation.

30 in.

x

42 in.

Solve the equation. Check your solution.

10 $z - 5 = 10$

11 $14 = 9 + g$

12 A moving van weighing 13,500 pounds was loaded with furniture. The van stopped at a weigh station and the combined weight of the van and furniture was 14,955 pounds. How much did the furniture weigh?

Perform the indicated operation.

13 $745.26 + (-18.6)$

14 $4.08 \div 0.006$

15 $-7(4.56)$

Solve the equation.

16 $9m = 7.2$

17 $\dfrac{d}{9} = 4.3$

Solve the equation. Check your solution.

18 $-10 + 2x = 4$

19 $-\dfrac{q}{4} + 3 = 18$

20 A car-rental company charges a flat fee of \$195 and \$0.20 per mile to rent a popular model of a sports-utility vehicle. If the total cost to rent the vehicle for a 5-day ski trip was \$495, how many miles were driven?

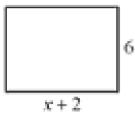Solve the equation. Then check the solution.

21 $-16 = -3x + x$
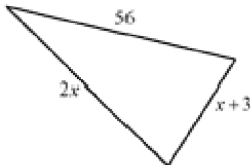
22 $-n + 15 + 3n + 15 = -4$

23 $-2(6n - 5) = -26$
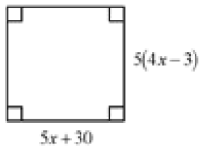
Find the value of x for the figure.

24 Perimeter $= 28$

25 Perimeter $= 140$

26 Find the value of x so that the figure is a square.

Write an inequality to represent the situation.
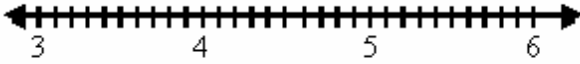
27 Thomas can type at most 65 words per minute.

Solve the inequality. Then graph its solution.
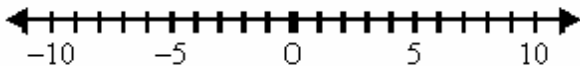
28 $y + 4 < -5$

29 $x - 6 \geq -2.4$

Solve the inequality. Then graph the solution.

30 $\dfrac{x}{2} < -5$
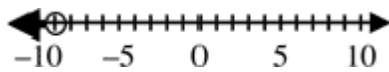

31 $-2x \leq -8$

32 Brant makes $7 an hour working at Hotdogville. He plans to buy a snowboard, which costs $301. Write and solve an inequality describing at least how long Brant will have to work to be able to buy the snowboard.

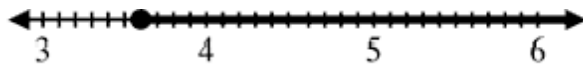Solve the inequality. Then identify the solution of the inequality.

33 $1 + 5x > 11$
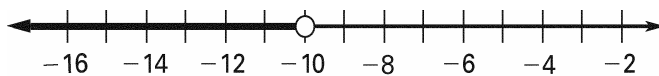
Mastery Test #3 Review
Answer Section

1 18
2 −56
3 41
4 125 cubic inches
5 $490m$
6 94
7 $2x + 8$
8 $5x - 10$
9 $131 = x + 30 + 42$; 59 in.
10 15
11 5
12 1455 pounds
13 726.66
14 680
15 -31.92
16 0.8
17 38.7
18 7
19 -60
20 1500 mi
21 8
22 −17
23 3
24 6
25 27 units
26 3
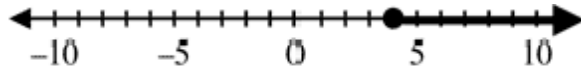**27** $t \le 65$
28 $y < -9$

29 $x \ge 3.6$

30 $x < -10$

31 $x \geq 4$

32 $\$7 \cdot h \geq \$301$ or $h \geq \dfrac{\$301}{\$7}$; at least 43 hours

33 $x > 2$