# Review Exercises

1. $x + 2 = 9$
   $x =$

2. $n + -3 = -7$
   $n =$

3. $3n = 36$

4. $-5n = -25$

5. $\frac{n}{3} = 5$
   $n =$

6. $2x + 1 = 7$

## Helpful Hints

**Algebra word problems** must be translated into an **equation** and solved.

**Example:**

Six times a number less two equals four times the number added to 10.
First translate and then solve.

$$6x - 2 = 4x + 10$$

$+ -4x \quad -4x$ — Add -4x to both sides.

$$2x - 2 = 10$$

$2 = 2$ — Add 2 to both sides.

$\frac{2x}{2} = \frac{12}{2}$ — Divide both sides by 2.

$x = (6)$ — The number is 6.

Translate each of the following into an equation and solve.

S1. Six less than twice a number is 16. Find the number.

S2. The difference between three times a number and 8 is 28. Find the number.

1. Five less than twice a number is 67. Find the number.

2. Four times a number decreased by five is -17. Find the number.

3. Four times a number less six is eight more than two times the number. Find the number.

4. Eight more then one-half a number is 10. Find the number.

5. The difference between four times a number and two is 10.

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## Problem Solving

A doctor's annual income is $150,000. What is his average monthly income?

# Review Exercises

1. Write $3.61 \times 10^7$ as a conventional number.
2. Write .00000127 in scientific notation.
3. Write 729,000,000 in scientific notation.

## Helpful Hints

Remember these steps when solving algebra word problems.

1. Read the problem very carefully.
2. Write an equation.
3. Solve the equation and find the answer.
4. Check your answer to be sure it makes sense.

**Example:** John is twice as old as Susan. The sum of their ages is 42. What is each of their ages?

Let x = Susan's age  2x = John's age

$x + 2x = 42$  Susan's age is $x = (14)$

$3x = 42$  John's age is $2x = (28)$

$x = 14$  The sum is 42.

Solve the algebra word problems.

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S1. Amir is six years older than Kevin. The sum of their ages is 30. Find the age of each.

S2. A board 44 inches long is cut into two pieces. The long piece is three times the length of the short piece. What is the length of each piece.

1. Bob and Bill together earn $66. Bill earned $6 more than twice as much as Bob. How much did each earn?

2. Steve worked Monday and Tuesday and earned a total of $212. He earned $30 more on Tuesday than he did on Monday. How much did Steve earn each day?

3. Five times Bob's age plus six equals three times his age plus 30. What is Bob's age?

4. Sixty dollars less than three times Susan's weekly salary is equal to 360 dollars. What is Susan's weekly salary?

5. Twice John's age less 12 is 48. What is John's age?

## Problem Solving

A student has test scores of 90, 96, 84, and 86. What was his average score?

# Review Exercises

Solve each equation.

1. $2x + 7 = -15$
2. $5x + 6 = 106$
3. $\frac{n}{4} + 2 = 13$
4. $3(n + 6) = -9$
5. $5x + 3 = 7x + -3$
6. $3x + 2x = 55$

## Helpful Hints

*Remember:
1. Read the problem carefully.
2. Write an equation.
3. Solve the equation and find the answer.
4. Check your answer to be sure it makes sense.

Solve each algebra word problem.

S1. Five more than six times a number is equal to 48 less 7. Find the number.

S2. Steve weighs 50 pounds more than Bart. Their combined weight is 270 pounds. What is each of their weights?

1. The sum of three times a number and 15 is -12. Find the number.
2. Eight more than six times a number is 20 more than four times the number. Find the number.
3. The sum of five and a number is -19. Find the number.
4. Roy is three times as old as Ellen. The sum of their ages is 44 years. What are each of their ages?
5. Six more than two times a number is six less than six times the number. Find the number.

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## Problem Solving

A plane travelled 2,100 miles in 3.5 hours. What was the plane's average speed per hour?