NAME _____ DATE _____

Module 4 Solving Problems Using Linear Equations of One Variable
Lesson 1 Translating Sentences into Algebraic Equations

independent practice

Write an equation to represent each sentence or situation.

1. Four less than a number is 21.

2. The sum of a number and four is eight.

3. Twice a number divided by three is six.

4. When a number is increased by 12, the result is equal to twice the number.

5. The price of a grapefruit is g. The price of six grapefruits is $1.86.

6. Ned is 3 inches taller than his brother, who is b inches tall. The sum of their heights is 113 inches.

7. A customer withdrew $42 from his bank account, leaving a balance of $211.

8. Crystal counted out q quarters with a total value of $9.50.

9. A school has 35 teachers. The number of male teachers is two-thirds the number of female teachers.

10. Paula purchased a big-screen television. She will make 18 equal monthly payments to pay a total of $3,600.

Journal

1. If Frank is five years older than his brother, explain how the sum of the boys' ages can be written either as $b + (b + 5)$ or as $f + (f - 5)$. What is the difference? Hint: notice the variables used in each expression.
2. Explain why the expression "the difference of a and b" does not have a clear meaning.
3. Explain why "the sum of a and b" can be written as $a + b$ or $b + a$.
4. Suppose you were discussing a homework problem on the telephone and your friend told you to write an expression for the phrase "three times a number decreased by four." What expression would you write? What expression would you write for the phrase "three times the quantity, a number decreased by four?" Explain why the expressions are different.

5. Without looking at your notes, make a list of key words for each operation (multiplication, division, addition, and subtraction). Can you add words not mentioned in this lesson?

Cumulative Review

Solve.

1. $4x = 20$ _____

2. $x - 5 = -3$ _____

3. $x - 4 = 3x + 6$ _____

4. $3x - 9 = -3$ _____

5. $x - 5 = -4x + 10$ _____

6. $1.2x = 60$ _____

7. $-3n - 2n = 6n - 22$ _____

8. $3x = 2(10 - x)$ _____

9. $3n + 4 + 4n = 5n + 2$

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10. $4 + 2(3 + x) = 2(x - 6) + 22$

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