

LESSON
1.5**Challenge Practice***For use with pages 35–41*

- Let $\angle A$ and $\angle B$ be complementary angles and let $m\angle A = (2x^2 + 35)^\circ$ and $m\angle B = (x + 10)^\circ$. What is (are) the value(s) of x ? What are the measures of the angles?
- Let $\angle A$ and $\angle B$ be supplementary angles and let $m\angle A = (x^2 + 12x)^\circ$ and $m\angle B = (3x^2 + 20)^\circ$. What is the value of x ? What are the measures of the angles?
- The sum of the measures of two supplementary angles exceeds the difference of their measures by 116° . Find the measure of each angle.
- The sum of the measures of two complementary angles exceeds the difference of the measures of their supplements by 32° . Find the measure of each angle.

In Exercises 5–8, determine whether the statement is *true* or *false*. Explain your reasoning and make a sketch that justifies your answer.

- If $\angle AGB$ and $\angle BGC$ are adjacent, then the angles form a linear pair.
- If $\angle ABC$ and $\angle CBD$ are a linear pair and if $\angle CBD$ and $\angle DBE$ are also a linear pair, then $\angle ABC$ and $\angle DBE$ are vertical angles.
- If $\angle JKL$ is a right angle and $\angle JKM$ is an acute angle, then the angles form a linear pair.
- If $\angle JKL$ and $\angle MKN$ are vertical angles, then $\angle NKL$ is a straight angle.

In Exercises 9–12, find the values of x and y shown in the diagram.

