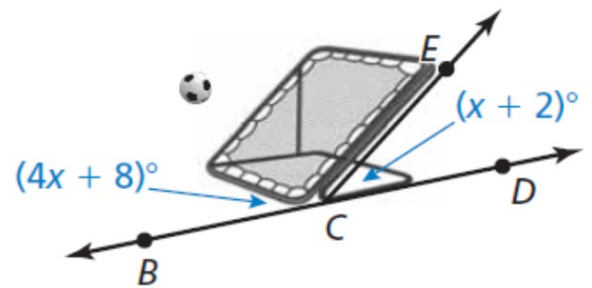


When viewed from the side, the frame of a ball-return net forms a pair of supplementary angles with the ground. Find  $m\angle BCE$  and  $m\angle ECD$ .



**Step 1** Use the fact that the sum of the measures of supplementary angles is  $180^\circ$ .

$$m\angle BCE + m\angle ECD = 180^\circ$$

Write an equation.

$$(4x + 8)^\circ + (x + 2)^\circ = 180^\circ$$

Substitute angle measures.

$$5x + 10 = 180$$

Combine like terms.

$$x = 34$$

Solve for  $x$ .

**Step 2** Evaluate the given expressions when  $x = 34$ .

$$m\angle BCE = (4x + 8)^\circ = (4 \cdot 34 + 8)^\circ = 144^\circ$$

$$m\angle ECD = (x + 2)^\circ = (34 + 2)^\circ = 36^\circ$$

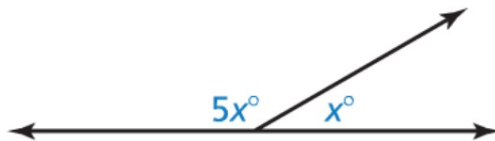
► So,  $m\angle BCE = 144^\circ$  and  $m\angle ECD = 36^\circ$ .

**5.**  $\angle LMN$  and  $\angle PQR$  are complementary angles. Find the measures of the angles when  $m\angle LMN = (4x - 2)^\circ$  and  $m\angle PQR = (9x + 1)^\circ$ .

$$m\angle LMN = 26^\circ; m\angle PQR = 64^\circ$$

Two angles form a linear pair. The measure of one angle is five times the measure of the other angle. Find the measure of each angle.

**Step 1** Draw a diagram. Let  $x^\circ$  be the measure of one angle. The measure of the other angle is  $5x^\circ$ .



**Step 2** Use the fact that the angles of a linear pair are supplementary to write an equation.

$$x^\circ + 5x^\circ = 180^\circ$$

Write an equation.

$$6x = 180$$

Combine like terms.

$$x = 30$$

Divide each side by 6.

► The measures of the angles are  $30^\circ$  and  $5(30^\circ) = 150^\circ$ .