Solve Linear Equations Worksheets

For each of the following problems, write an equation and solve.

**1. One angle is five degrees less than three times the measure of another angle.
Together, the angle measures have a sum of $143°$. What is the measure of each angle?**

2. Given a right triangle, find the degree measure of the angles if one angle is ten degrees more than four times the degree measure of the other angle and the third angle is the right angle.

Solve Linear Equations Worksheets

For each of the following problems, write an equation and solve.

1. One angle is five degrees less than three times the measure of another angle. Together, the angle measures have a sum of $143°$. What is the measure of each angle?

$$x + 3x - 5 = 143$$
$$(1 + 3)x - 5 = 143$$
$$4x - 5 = 143$$
$$4x - 5 + 5 = 143 + 5$$
$$4x = 148$$
$$x = 37$$

The measure of the first angle is $37°$.

The second angle is $3(37°) - 5° = 111° - 5° = 106°$.

2. Given a right triangle, find the degree measure of the angles if one angle is ten degrees more than four times the degree measure of the other angle and the third angle is the right angle.

Let x be the measure of the first angle. Then, the second angle is $4x + 10$. The sum of the measures for the angles for this right triangle is $x + 4x + 10 + 90 = 180$.

$$x + 4x + 10 + 90 = 180$$
$$(1 + 4)x + 100 = 180$$
$$5x + 100 = 180$$
$$5x + 100 - 100 = 180 - 100$$
$$5x = 80$$
$$x = 16$$

The measure of the first angle is $16°$, the measure of the second angle is $4(16°) + 10° = 64° + 10° = 74°$, and the measure of the third angle is $90°$.