

## Angle Word Problems Worksheets

1. The measurement of the supplement of an angle is  $39^\circ$  more than half the angle. Find the measurement of the angle and its supplement.

2. The supplement of the measurement of an angle is  $16^\circ$  less than three times the angle. Find the measurement of the angle and its supplement.

3. The measurement of the complement of an angle exceeds the measure of the angle by 25%. Find the measurement of the angle and its complement.

## Angle Word Problems Worksheets

1. The measurement of the supplement of an angle is  $39^\circ$  more than half the angle. Find the measurement of the angle and its supplement.

$$\begin{aligned}x + \left(\frac{1}{2}x + 39\right) &= 180 \\1.5x + 39 &= 180 \\1.5x + 39 - 39 &= 180 - 39 \\1.5x &= 141 \\1.5x \div 1.5 &= 141 \div 1.5 \\x &= 94\end{aligned}$$

*The measurement of the angle is  $94^\circ$ .*

*The measurement of the supplement is  $\frac{1}{2}(94)^\circ + 39^\circ = 86^\circ$ .*

2. The supplement of the measurement of an angle is  $16^\circ$  less than three times the angle. Find the measurement of the angle and its supplement.

$$\begin{aligned}x + (3x - 16) &= 180 \\4x - 16 + 16 &= 180 + 16 \\4x &= 196 \\ \left(\frac{1}{4}\right)4x &= \left(\frac{1}{4}\right)196 \\x &= 49\end{aligned}$$

*Angle =  $49^\circ$*

*Supplement =  $3(49)^\circ - 16^\circ = 131^\circ$*

3. The measurement of the complement of an angle exceeds the measure of the angle by 25%. Find the measurement of the angle and its complement.

$$\begin{aligned}x + \left(x + \frac{1}{4}x\right) &= 90 \\x + \frac{5}{4}x &= 90 \\ \frac{9}{4}x &= 90 \\ \left(\frac{4}{9}\right)\frac{9}{4}x &= \left(\frac{4}{9}\right)90 \\x &= 40\end{aligned}$$

*Angle =  $40^\circ$*

*Complement =  $\frac{5}{4}(40)^\circ = 50^\circ$*