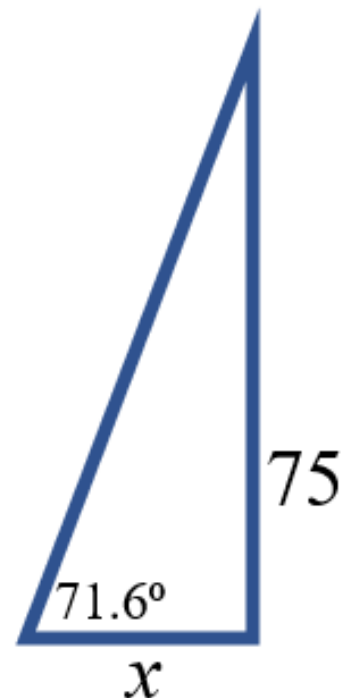
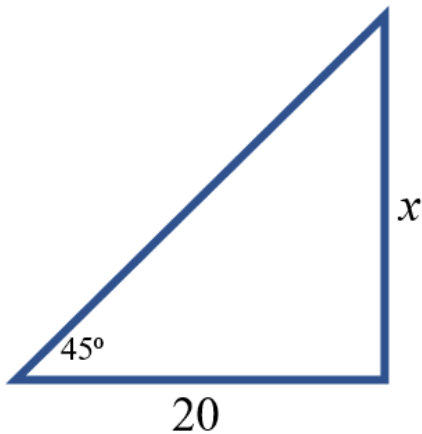
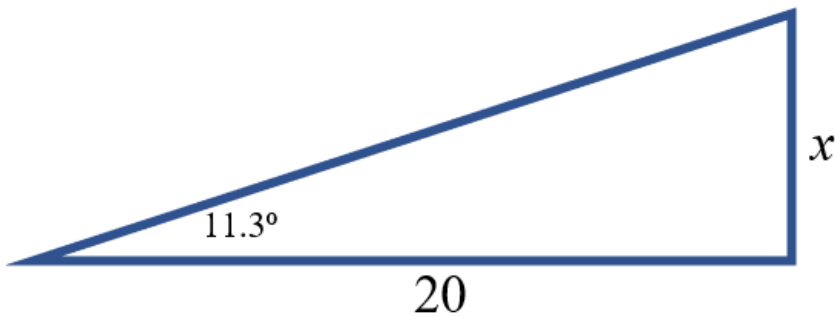
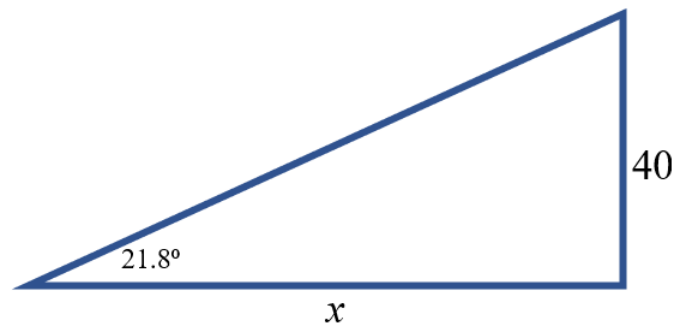
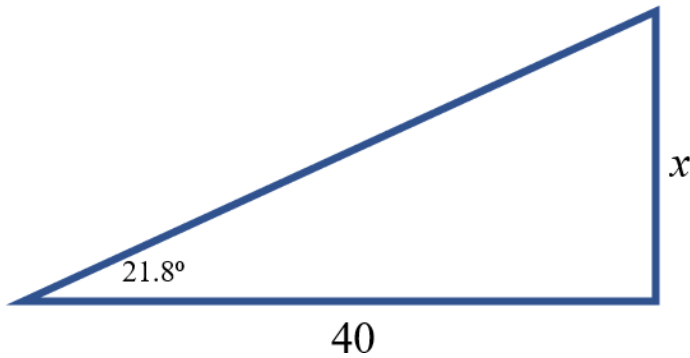


Introduction to Trigonometry

The Tangent Ratio

CRITICAL DISCERNMENT: Scaling the value of the tangent ratio, $\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$, can be used to indirectly measure lengths.

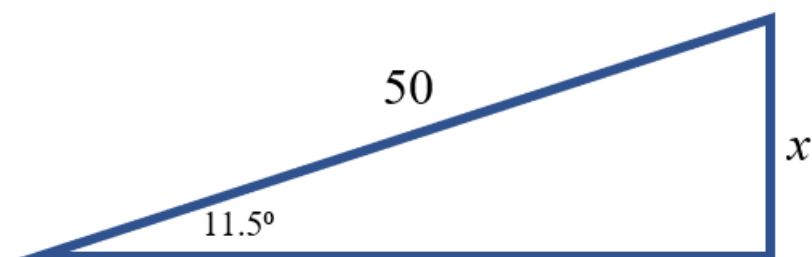
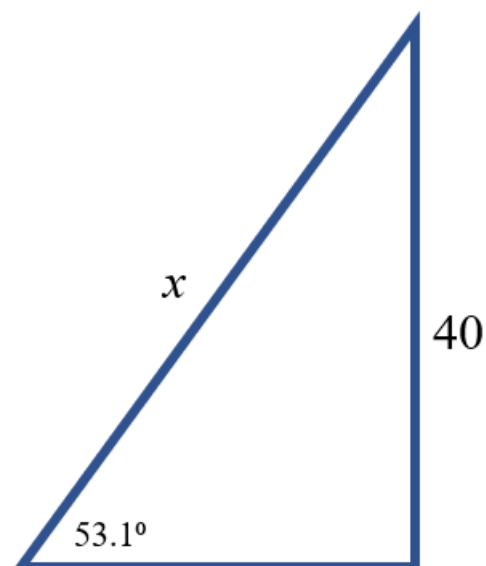
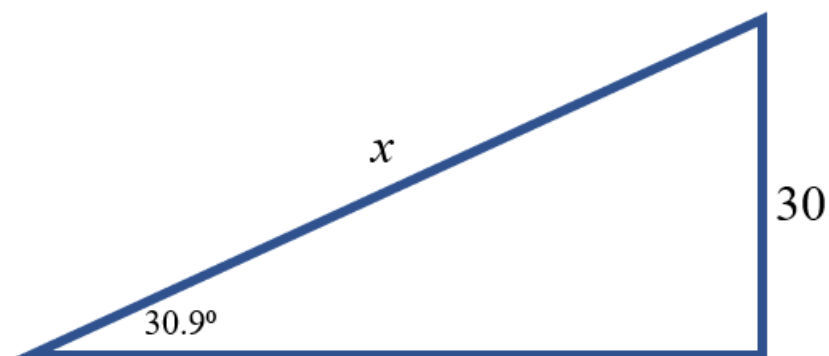
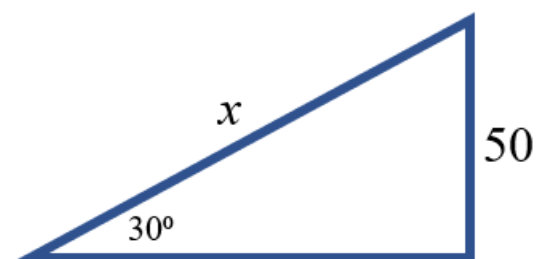
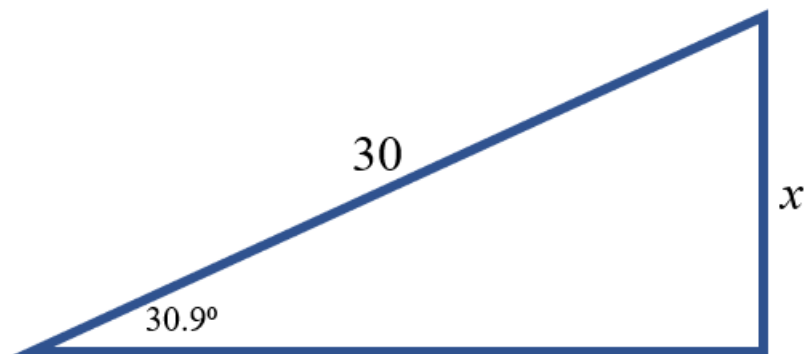
A triangle represented by a tangent ratio of $\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$ is shown. Find the length of x .



The Sine Ratio

CRITICAL DISCERNMENT: Scaling the value of the sine ratio, $\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$, can be used to indirectly measure lengths.

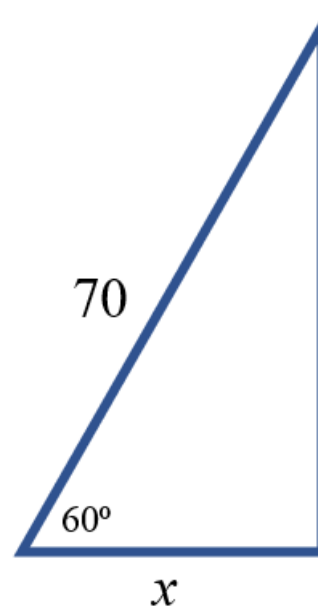
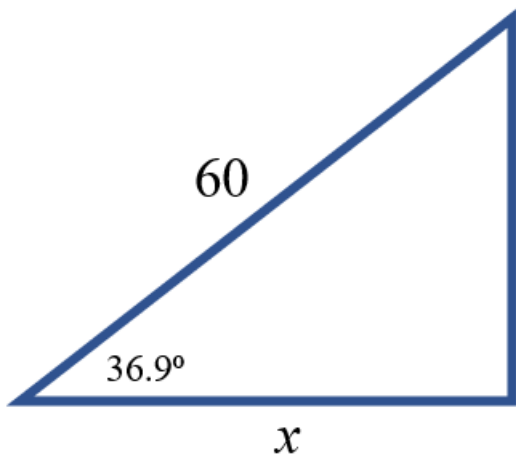
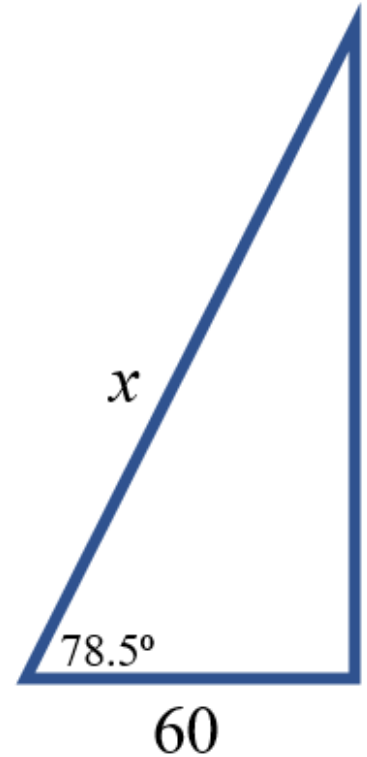
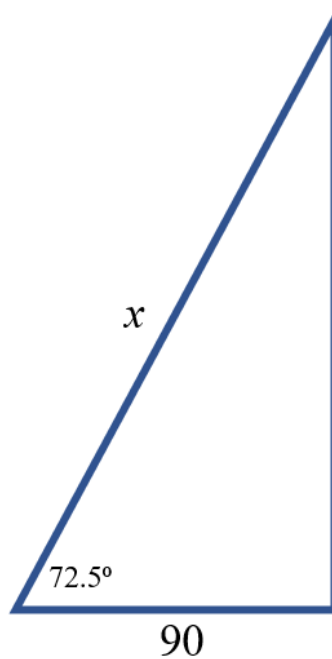
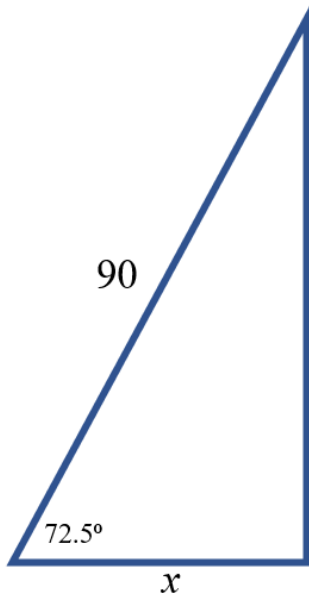
A triangle represented by a sine ratio of $\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$ is shown below. Find the length of x .



The Cosine Ratio

CRITICAL DISCERNMENT: Scaling the value of the cosine ratio, $\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$, can be used to indirectly measure lengths.

A triangle represented by a cosine ratio of $\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$ is shown below. Find the length of x .



Trigonometric Ratios

$$\sin^{-1}\left(\frac{\text{opposite}}{\text{hypotenuse}}\right) = \theta$$

$$\cos^{-1}\left(\frac{\text{adjacent}}{\text{hypotenuse}}\right) = \theta$$

$$\tan^{-1}\left(\frac{\text{opposite}}{\text{adjacent}}\right) = \theta$$

Determine the measure of the marked angle.

