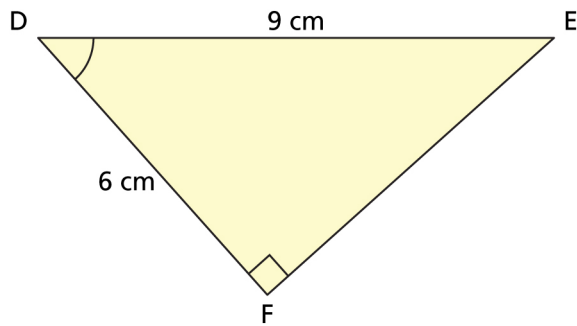


Finding Angles: Cosine

Find an Angle Using Cosine

Determine the measure of angle D.



Alt Text: This illustration shows a right triangle with hypotenuse 9 cm and adjacent side 6 cm.

Solution

To determine angle EDF, we must use the information given. Side DF is adjacent to the angle, and side DE is the hypotenuse. Therefore, we must use cosine.

$$\cos EDF = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\cos EDF = \frac{6 \text{ cm}}{9 \text{ cm}}$$

$$\cos EDF = 0.\bar{6}$$

$$\cos^{-1}(\cos EDF) = \cos^{-1}(0.\bar{6})$$

$$EDF = 48.2^{\circ}$$