

Finding an Angle: Question 1

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We need to use the law of cosines.

$$16^2 = 9^2 + 12^2 - 2 * 9 * 12 * \cos(C) \quad (1)$$

$$256 - (81 + 144) \rightarrow 31 \quad (2)$$

$$-\frac{31}{216} = \cos(C) \quad (3)$$

$$C = \cos^{-1}\left(-\frac{31}{216}\right) \approx 81.75^\circ \quad (4)$$