Trigonometry of Right Angle Triangles – SOH CAH TOA

Solve for the desired angle of the right angle triangle, round to the nearest degree.

1. Need angle have ADJ and NYP so CAH

\[
\cos \theta = \frac{4}{5} \quad \theta = \cos^{-1} \left( \frac{4}{5} \right)
\]

\[
\theta = 36.9^\circ
\]

2. Have opp and ADJ so TOA

\[
\tan \theta = \frac{9}{9} \quad \theta = 45^\circ
\]

\[
\theta = \tan^{-1} \left( \frac{9}{9} \right)
\]

3. Have opp and NYP so SOH

\[
\sin \theta = \frac{10}{12} \quad \theta = 56.4^\circ
\]

\[
\theta = \sin^{-1} \left( \frac{10}{12} \right)
\]

4. Have OPP and NYP so SOH

\[
\sin \theta = \frac{10}{13} \quad \theta = 50.3^\circ
\]

\[
\theta = \sin^{-1} \left( \frac{10}{13} \right)
\]

5. Have ADJ and NYP so CAH

\[
\cos \theta = \frac{41}{42} \quad \theta = 12.5^\circ
\]

\[
\theta = \cos^{-1} \left( \frac{41}{42} \right)
\]

Triangles not to scale, trust the math

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