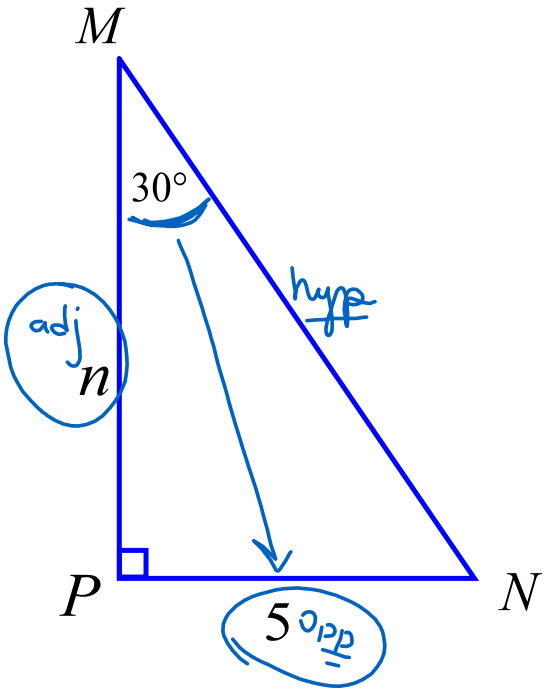
Example: Determine the value of n.



opp & adj

$\tan 30° = \frac{5}{n}$

$n \cdot \tan 30° = 5$

$n = \frac{5}{\tan 30°}$

$n = 8.66$

Text Book 2:

pp. 85-86

Questions 1, 2, 3 & 8

Trigonometry

opp & hyp → sine

Finding Missing Angles

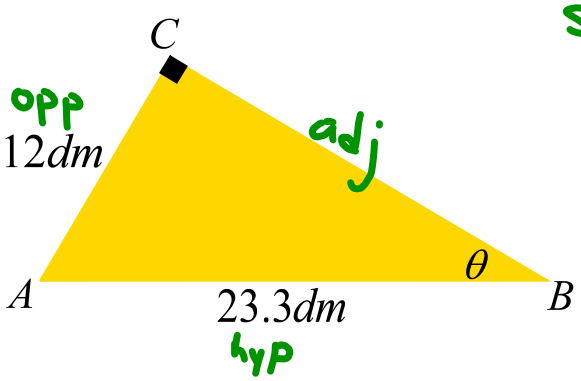
(given at least two sides)

$\sin\theta = \frac{opp}{hyp}$

$\sin\theta = \frac{12}{23.3}$

$\sin\theta = 0.51502$

Example:



$\theta = \sin^{-1}(0.51502)$

$\theta = 2nd\ [\sin]\ (0.51502)$

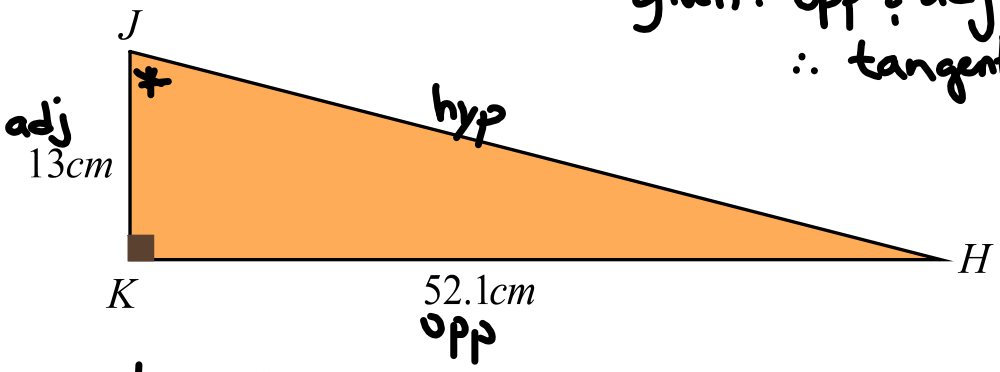
$\theta = 30.998889360$

$\theta = 31°$

- Choose one of the acute angles; determine which sides you're given with respect to that angle.
- Determine which trig ratio uses these sides.
- Set up the trig ratio, substituting the values in the appropriate places.
- Solve for the missing angle using arccos, arcsin, or arctan ($\cos^{-1}$, $\sin^{-1}$ or $\tan^{-1}$ on the calculator).

Example: Determine the measure of $\angle J$.

given: opp & adj
∴ tangent



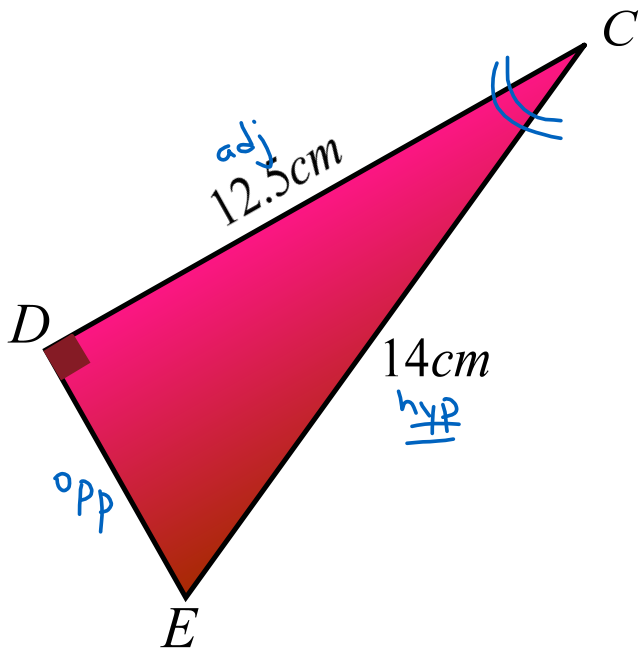
$\tan J = \frac{52.1}{13}$

$\tan J = 4.0077$

$\angle J = \tan^{-1}(4.0077)$

$\angle J = 75.99°$ $\angle J = 76°$

Example: Determine the measure of $\angle C$.



want: $\angle C$
have: adj & hyp

$\cos C = \frac{12.5}{14}$

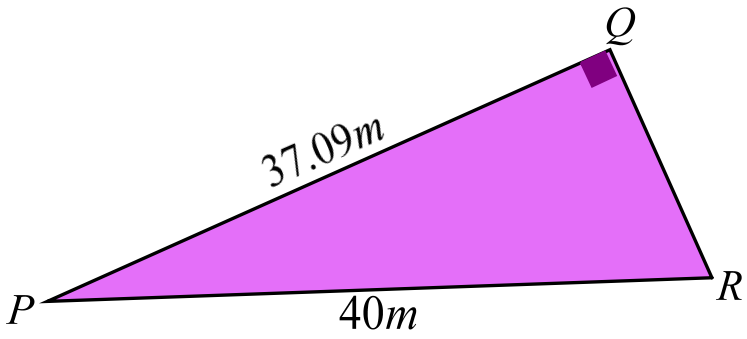
$\cos C = 0.89286$

$C = \cos^{-1}(0.89286)$

$C = 26.77^\circ$

$C \approx 27^\circ$

Solve the following triangle.



Remember:

If you have to find a side, use $\sin$, $\cos$ and $\tan$.

If you have to find an angle, use $\sin^{-1}$, $\cos^{-1}$ and $\tan^{-1}$.