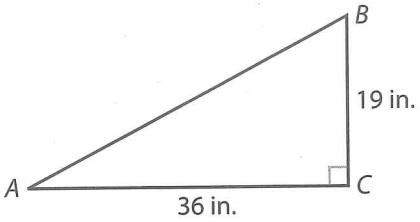
Example 3 Find the measure of the indicated angle. Round to the nearest degree.



(A) What is m∠*A*?

Step 1 Write the tangent ratio for ∠*A* using the known values.	Step 2 Write the inverse tangent equation.	Step 3 Evaluate using a calculator and round as indicated.
$\tan A = \frac{19}{36}$	$\tan^{-1}\frac{19}{36} = m\angle A$	$m\angle A \approx 27.82409638 \approx 28°$

(B) What is m∠*B*?

Step 1 Write the tangent ratio for ∠*B* using the known values.	Step 2 Write the inverse tangent equation.	Step 3 Evaluate using a calculator and round as indicated.
$\tan B = \frac{\square}{\square}$	$\frac{\square}{\square} = m\angle B$	$m\angle B \approx \square° \approx \square°$

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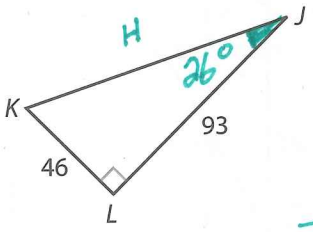
SOH-CAH-TOA

8. Find m∠*J*.

=26°



$\tan J = \frac{46}{93}$

$\tan^{-1}\left(\frac{46}{93}\right) = J$

Elaborate

9. Explain how to identify the opposite and adjacent legs of a given acute angle.

10. **Discussion** How does tan *A* change as m∠*A* increases? Explain the basis for the identified relationship.

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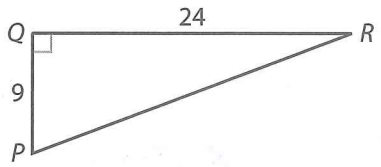
Find the measure of the angle specified for each triangle. Use the inverse tangent ($\tan^{-1}$) function of your calculator. Round your answer to the nearest degree.

15. Find $\angle A$. $= 66°$

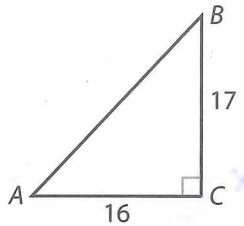
$\tan A = \frac{6.8}{3.0}$

$\tan^{-1}\left(\frac{6.8}{3.0}\right) = A$

16. Find $\angle R$.

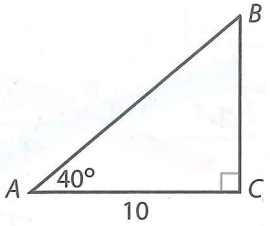


17. Find $\angle B$.

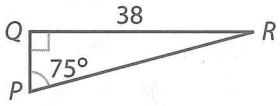


Write an equation using either tan or $\tan^{-1}$ to express the measure of the angle or side. Then solve the equation.

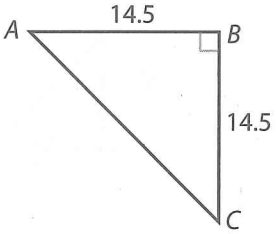
18. Find BC.



19. Find PQ.



20. Find $\angle A$ and $\angle C$.



21. **Multi-Step** Find the measure of angle D. Show your work.