6.5 HW Key

SOHCAHTOA: Missing Angles **Geometry**

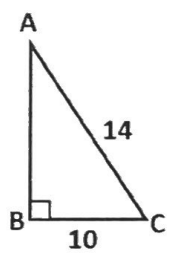
Directions: Find the missing angle to the nearest degree.

1) $\sin P = \frac{6}{10}$ 2) $\cos M = \frac{12}{13}$ 3) $\tan P = \frac{3}{4}$ 4) $\cos O = \frac{15}{16}$ 5) $\sin O = \frac{1}{2}$

$\approx 37^\circ$ $\approx 23^\circ$ $\approx 37^\circ$ $\approx 20^\circ$ $= 30^\circ$

Directions: Find each angle. Round to the nearest degree.

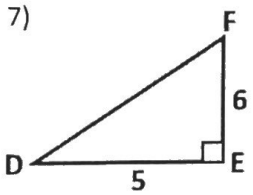
6)



$m\angle C \approx 44^\circ$

$m\angle A \approx 46^\circ$

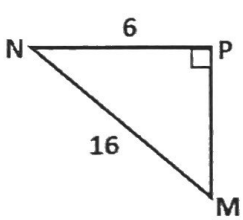
7)



$\angle F \approx 40^\circ$

$\angle D \approx 50^\circ$

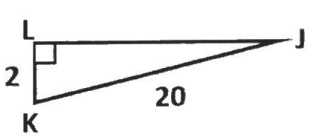
8)



$\angle m \approx 22^\circ$

$\angle N \approx 68^\circ$

9)

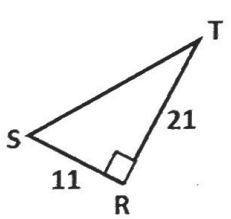


$\angle J \approx 6^\circ$

$\angle K \approx 84^\circ$

Directions: Find all the missing sides and angles on the triangle.

10)

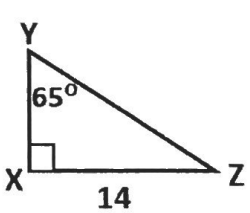


$\angle S \approx 62^\circ$

$\angle T \approx 28^\circ$

$ST \approx 24$

11)



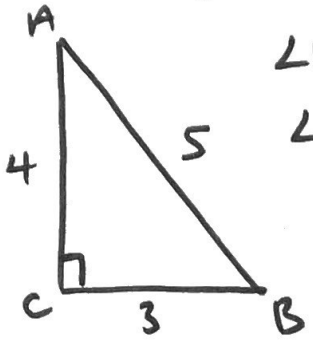
$\angle Z = 25$

$\overline{XY} \approx 33$

$\overline{YZ} \approx 15.4$

Directions: Draw a right triangle with points A, B, & C to represent each set of given information. Then find all missing sides and angles. Assume C is the right angle.

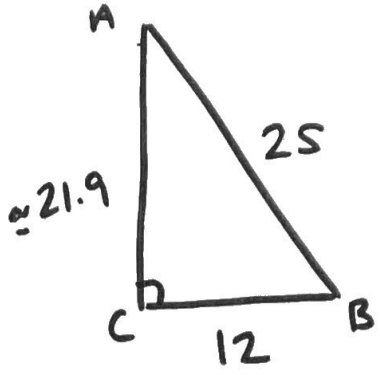
12) $\sin A = \frac{3}{5}$



$\angle A \approx 37.9$

$\angle B \approx 53.1$

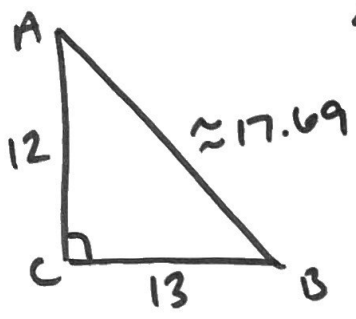
13) $\cos B = \frac{12}{25}$



$\angle A \approx 29°$

$\angle B \approx 61°$

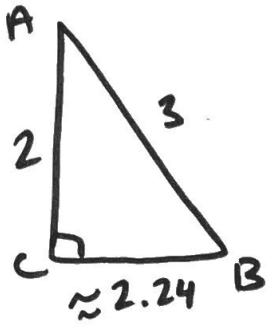
14) $\tan A = \frac{13}{12}$



$\angle A \approx 47°$

$\angle B \approx 43°$

15) $\sin B = \frac{2}{3}$

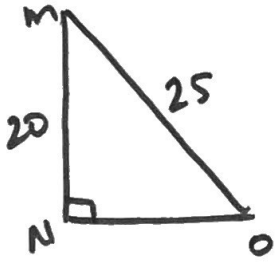


$\angle A \approx 42°$

$\angle B \approx 48°$

Directions: Draw a triangle to represent the given situation. Then, find each missing side.

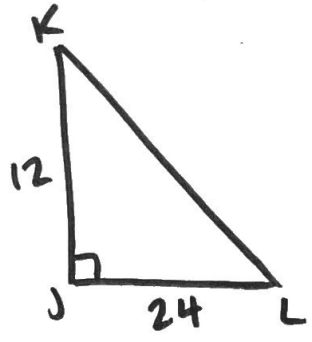
16) M, O, and N are the vertices of a right triangle. MO = 25 & MN = 20. MO is the hypotenuse. What is m∠M?



$m\angle M \approx 37°$

$\cos^{-1}\left(\frac{20}{25}\right)$

17) J, K, and L are the vertices of a right triangle. Angle J is the right angle. JK = 12 and JL is 2 times the size of JK. What is m∠K?



$m\angle K$:

$\tan^{-1}\left(\frac{24}{12}\right) \approx \boxed{63°}$