

SOH CAH TOA

Kuta Software - Infinite Geometry

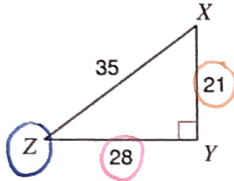
Name _____ **KEY**

Trigonometric Ratios

Date _____ Period _____

Find the value of each trigonometric ratio.

1) $\tan Z$
TOA



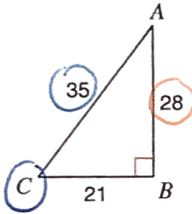
$$\begin{aligned} \tan Z &= \frac{O}{A} \\ &= \frac{21}{28} \\ &= \frac{3}{4} \end{aligned}$$

2) $\cos C$
CAH



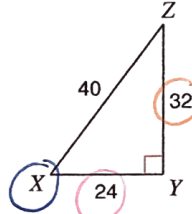
$$\begin{aligned} \cos C &= \frac{A}{H} \\ &= \frac{16}{34} \\ &= \frac{8}{17} \end{aligned}$$

3) $\sin C$
SOH



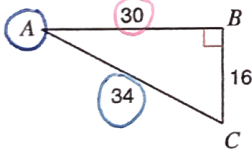
$$\begin{aligned} \sin C &= \frac{O}{H} \\ &= \frac{28}{35} \\ &= \frac{4}{5} \end{aligned}$$

4) $\tan X$
TOA



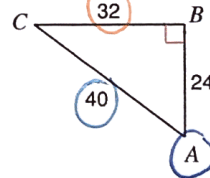
$$\begin{aligned} \tan X &= \frac{O}{A} \\ &= \frac{32}{24} \\ &= \frac{4}{3} \end{aligned}$$

5) $\cos A$
CAH



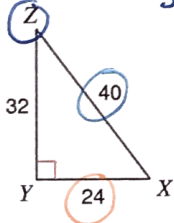
$$\begin{aligned} \cos A &= \frac{A}{H} \\ &= \frac{30}{34} \\ &= \frac{15}{17} \end{aligned}$$

6) $\sin A$
SOH



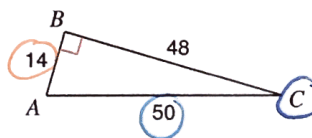
$$\begin{aligned} \sin A &= \frac{O}{H} \\ &= \frac{32}{40} \\ &= \frac{4}{5} \end{aligned}$$

7) $\sin Z$
SOH



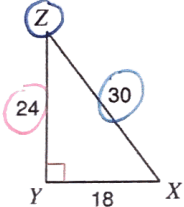
$$\begin{aligned} \sin Z &= \frac{O}{H} \\ &= \frac{24}{40} \\ &= \frac{3}{5} \end{aligned}$$

8) $\sin C$
SOH



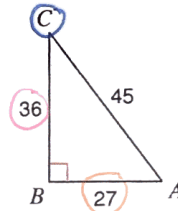
$$\begin{aligned} \sin C &= \frac{O}{H} \\ &= \frac{14}{50} = \frac{7}{25} \end{aligned}$$

9) $\cos Z$
CAH



$$\begin{aligned} \cos Z &= \frac{A}{H} \\ &= \frac{24}{30} \\ &= \frac{4}{5} \end{aligned}$$

10) $\tan C$
TOA



$$\begin{aligned} \tan C &= \frac{O}{A} \\ &= \frac{27}{36} \\ &= \frac{3}{4} \end{aligned}$$

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Name KEY

Inverse Trigonometric Ratios

Date _____ Period _____

Find each angle measure to the nearest degree.

1) $\sin B = 0.4848 \rightarrow \sin^{-1}(0.4848) = 28.99 \approx \boxed{29^\circ}$

2) $\sin A = 0.5150 \rightarrow \sin^{-1}(0.5150) = \boxed{31^\circ}$

3) $\cos A = 0.7431 \rightarrow \cos^{-1}(0.7431) = \boxed{42^\circ}$

4) $\cos W = 0.6157 \rightarrow \cos^{-1}(0.6157) = \boxed{52^\circ}$

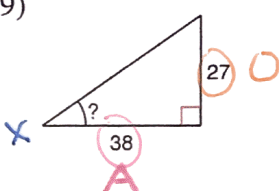
5) $\cos A = 0.5878 \rightarrow \cos^{-1}(0.5878) = \boxed{54^\circ}$

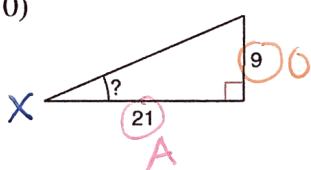
6) $\tan W = 19.0811 \rightarrow \tan^{-1}(19.0811) = \boxed{87^\circ}$

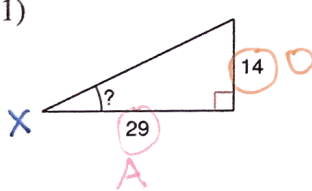
7) $\cos A = 0.4226 \rightarrow \cos^{-1}(0.4226) = \boxed{65^\circ}$

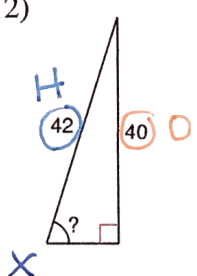
8) $\tan W = 0.5317 \rightarrow \tan^{-1}(0.5317) = \boxed{28^\circ}$

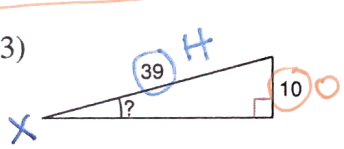
Find the measure of the indicated angle to the nearest degree.

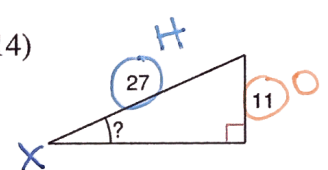
9)  $\tan x = \frac{O}{A} = \frac{27}{38}$
 $\tan x = 0.7105$
 $x = \boxed{35^\circ}$

10)  $\tan x = \frac{O}{A} = \frac{9}{21}$
 $\tan x = 0.4286$
 $x = \boxed{23^\circ}$

11)  $\tan x = \frac{O}{A} = \frac{14}{29}$
 $\tan x = 0.4828$
 $x = \boxed{26^\circ}$

12)  $\sin x = \frac{O}{H} = \frac{40}{42}$
 $\sin x = 0.9524$
 $x = \boxed{72^\circ}$

13)  $\sin x = \frac{O}{H} = \frac{10}{39}$
 $\sin x = 0.2564$
 $x = \boxed{15^\circ}$

14)  $\sin x = \frac{O}{H} = \frac{11}{27}$
 $\sin x = 0.4074$
 $x = \boxed{24^\circ}$