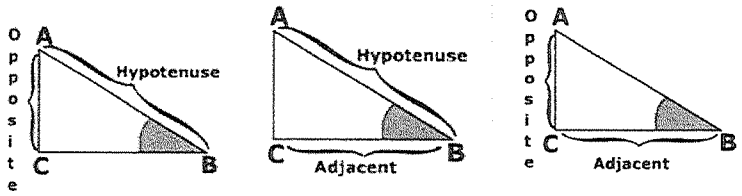
SOH CAH TOA: Practice Problems

Part I
Model Problems

$$\sin(B)=\frac{\text{opposite}}{\text{hypotenuse}} \qquad \cos(B)=\frac{\text{adjacent}}{\text{hypotenuse}} \qquad \tan(B)=\frac{\text{opposite}}{\text{adjacent}}$$

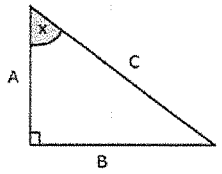


Model Problem 1) **Identify** The side adjacent, opposite to angle **x** and the hypotenuse

Adjacent to x : **A**

Opposite X : **B**

Hypotenuse : **C**



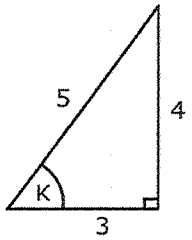
Model Problem 2) What is sin(k) , cos(k) and tan(k)?

Use SOHCAHTOA

$$\sin(k)=\frac{\text{opposite}}{\text{hypotenuse}}=\frac{4}{5}=.8$$

$$\cos(k)=\frac{\text{adjacent}}{\text{hypotenuse}}=\frac{3}{5}=.6$$

$$\tan(k)=\frac{\text{opposite}}{\text{adjacent}}=\frac{4}{3}=1.33$$



Examples

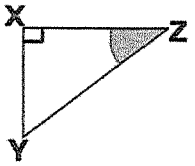
II. Identifying Opposite, Adjacent and Hypotenuse

Identify

1) the hypotenuse

2) the side opposite of ∠Z :_____

3) the side adjacent to ∠Z :_____

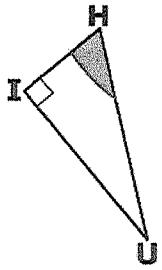


Identify

4) the hypotenuse

5) the side opposite of ∠H :_____

6) the side adjacent to ∠H :_____

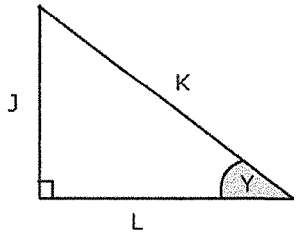


Identify

7) the hypotenuse

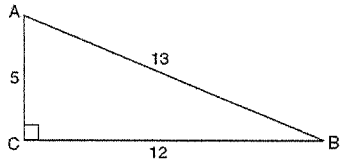
8) the side opposite of ∠Y :_____

9) the side adjacent to ∠Y :_____



Part III. Writing Sine, Cosine, Tangent Ratios

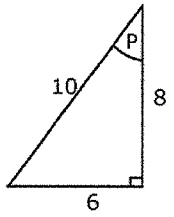
1) Which ratio represents cos A in the accompanying diagram of ΔABC?



(1) $\frac{5}{13}$ (3) $\frac{12}{5}$

(2) $\frac{12}{13}$ (4) $\frac{13}{5}$

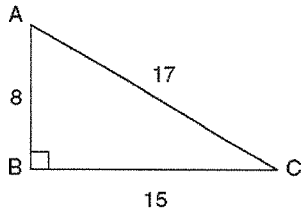
2) Which ratio represents sin P in the accompanying triangle?



(1) $\frac{6}{10}$ (3) $\frac{6}{8}$

(2) $\frac{8}{10}$ (4) $\frac{10}{6}$

3) In the accompanying diagram of right triangle ABC, AB = 8, BC = 15, AC = 17, and m $\angle$ ABC = 90.

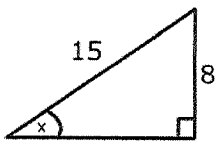


What is tan $\angle$ C?

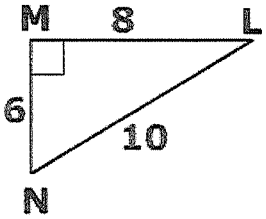
(1) $\frac{8}{15}$ (3) $\frac{8}{17}$

(2) $\frac{17}{15}$ (4) $\frac{15}{17}$

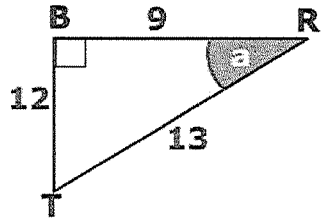
4) What is sin(x) ?



5) What is sin(L) , cos(L) and tan(L)?



6) What is sin(a) , cos(a) and tan(a)?



7) In triangle XYZ, $\angle y = 90°$ XY = 7, YZ = 24, and XZ = 25, which ratio represents cosine of $\angle x$?

(1) $\frac{7}{24}$ (3) $\frac{7}{25}$

(2) $\frac{24}{25}$ (4) $\frac{24}{7}$

8) In triangle MCT, the measure of $\angle T = 90°$, MC = 85 cm, CT = 84 cm, and TM = 13 cm. Which ratio represents the sine of $\angle C$?

(1) $\frac{13}{85}$ (3) $\frac{13}{84}$

(2) $\frac{84}{85}$ (4) $\frac{84}{13}$