

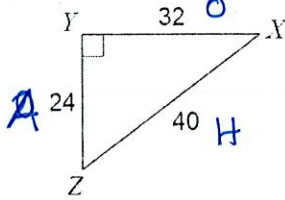
Name: _____ Date: _____

Trigonometry Ratios

Find each ratio and be sure to reduce, if possible.

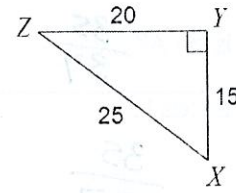
1. $\tan Z$

$$\frac{32}{24} = \frac{4}{3}$$



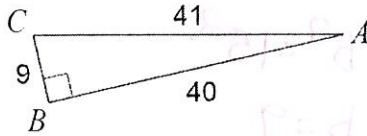
2. $\sin X$

$$\frac{4}{5}$$



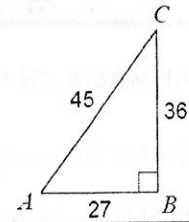
3. $\cos A$

$$\frac{40}{41}$$



4. $\sin C$

$$\frac{3}{5}$$



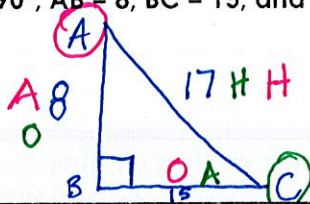
Draw $\triangle ABC$ where $\angle ABC = 90^\circ$, $AB = 8$, $BC = 15$, and $AC = 17$.

5. What is $\tan C$?

$$\frac{8}{15}$$

6. What is $\sin A$?

$$\frac{15}{17}$$



Draw $\triangle ABC$ where $\angle ACB = 90^\circ$, $AC = 5$, and $CB = 12$.

7. What is the length of AB ?

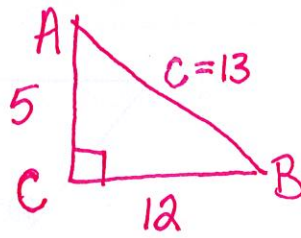
$$13$$

8. What is $\cos A$?

$$\frac{5}{13}$$

9. What is $\tan B$?

$$\frac{5}{12}$$



$$\begin{aligned} a^2 + b^2 &= c^2 \\ 12^2 + 5^2 &= c^2 \\ 169 &= c^2 \\ 13 &= c \end{aligned}$$

Draw $\triangle CAT$ where $\angle ATC = 90^\circ$, $CA = 53$, and $CT = 28$.

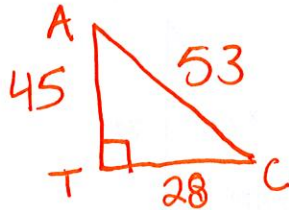
10. What is the length of AT ?

$$\frac{45}{53}$$

11. What is $\sin C$?

12. What is $\tan A$?

$$\frac{28}{45}$$



$$\begin{aligned} a^2 + b^2 &= c^2 \\ a^2 + 28^2 &= 53^2 \\ a^2 + 784 &= 2809 \\ -784 & \quad -784 \\ a^2 &= 2025 \\ a &= 45 \end{aligned}$$

Draw $\triangle ABC$ where $\angle B = 90^\circ$ and $\sin A = \frac{12}{20}$.

13. What is the length of AB ?

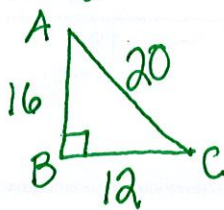
$$16$$

14. What is $\tan A$?

$$\frac{3}{4}$$

15. What is $\cos A$?

$$\frac{4}{5}$$



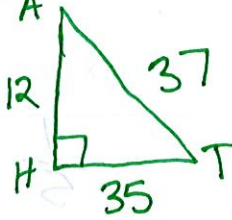
$$\begin{aligned} a^2 + 12^2 &= 20^2 \\ a^2 + 144 &= 400 \\ a^2 &= 256 \\ a &= 16 \end{aligned}$$

Draw $\triangle HAT$ where $\angle H = 90^\circ$ and $\tan T = \frac{12}{35}$.

16. What is the length of AT? **37 A**

17. What is $\sin A$? $\frac{35}{37}$

18. What is $\cos T$? $\frac{35}{37}$

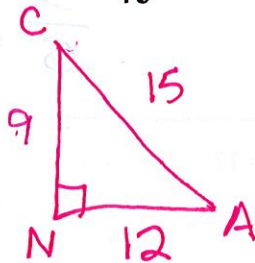


Draw $\triangle CAN$ where $\angle N = 90^\circ$ and $\cos A = \frac{12}{15}$.

19. What is the length of CN? **9**

20. What is $\sin A$? $\frac{9}{15}$

21. What is $\tan C$? $\frac{4}{3}$

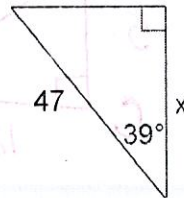


$12^2 + b^2 = 15^2$
 $b = 9$

In the following problems, using the angle that is given, MARK each given side as A (adjacent), O (opposite), or H (hypotenuse). Then TELL which TRIG RATIO you have. You will NOT be solving the problem for x (we haven't learned how YET).

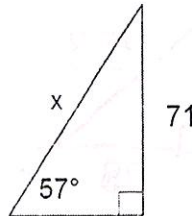
22. Which trig ratio is represented?

- A. SIN
- B. COS**
- C. TAN



23. Which trig ratio is represented?

- A. SIN**
- B. COS
- C. TAN



24. Which trig ratio is represented?

- A. SIN
- B. COS
- C. TAN**

