

Name _____ Date _____

Day 5 – Trigonometry Ratios: Given Info and Co-Functions

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

1. $\tan Z = \frac{32}{24} = \frac{4}{3}$

2. $\sin X = \frac{20}{25} = \frac{4}{5}$

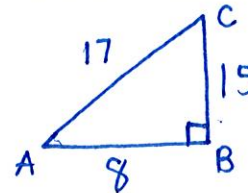
3. $\cos A = \frac{40}{41}$

4. $\sin C = \frac{27}{45} = \frac{3}{5}$

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

5. What is $\tan C$? $8/15$

6. What is $\sin A$? $15/17$

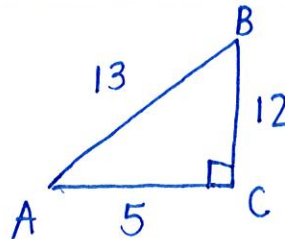


Draw $\triangle ABC$ where $\angle ACB = 90^\circ$, $AC = 5$, and $CB = 12$.

7. What is the length of AB ? 13

8. What is $\cos A$? $5/13$

9. What is $\tan B$? $5/12$



$$5^2 + 12^2 = C^2$$

$$\sqrt{169} = \sqrt{C^2}$$

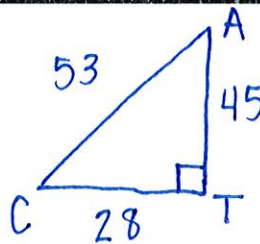
$$C = 13$$

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

10. What is the length of AT ? 45

11. What is $\sin C$? $45/53$

12. What is $\tan A$? $28/45$



$$28^2 + b^2 = 53^2$$

$$784 + b^2 = 2809$$

$$\sqrt{b^2} = \sqrt{2025}$$

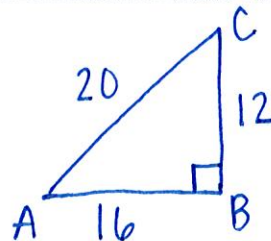
$$b = 45$$

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 $\tan A$? $12/16 = 3/4$

15. What is $\cos A$? $16/20 = 4/5$



$$12^2 + b^2 = 20^2$$

$$144 + b^2 = 400$$

$$\sqrt{b^2} = \sqrt{256}$$

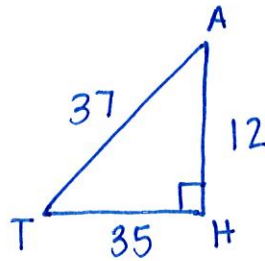
$$b = 16$$

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

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

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

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



$$12^2 + 35^2 = C^2$$

$$\sqrt{1369} = \sqrt{C^2}$$

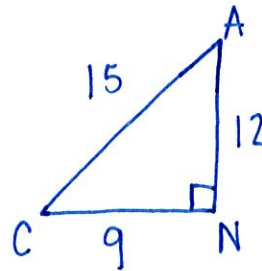
$$C = 37$$

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 $\sin A$? **$\frac{9}{15} = \frac{3}{5}$**

21. What is $\tan C$? **$\frac{12}{9} = \frac{4}{3}$**



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

$$144 + b^2 = 225$$

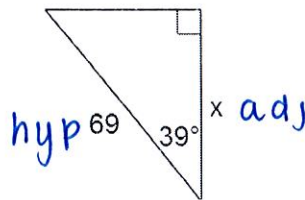
$$\sqrt{b^2} = \sqrt{81}$$

$$b = 9$$

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).

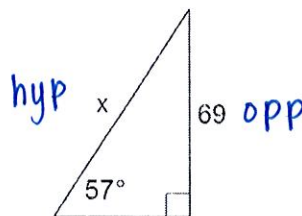
22. Which trig ratio is represented?

- 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**

