

**Homework** 2.9 Trigonometric Ratios

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

1. What is  $\tan C$ ?
2. What is  $\sin A$ ?

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

3. What is the length of  $AB$ ?
4. What is  $\cos A$ ?
5. What is  $\tan B$ ?

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

6. What is the length of  $AT$ ?
7. What is  $\sin C$ ?
8. What is  $\tan A$ ?

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

9. What is the length of  $AB$ ?
10. What is  $\tan A$ ?
11. What is  $\cos A$ ?

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

12. What is the length of  $AT$ ?
13. What is  $\sin A$ ?
14. What is  $\cos T$ ?

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

1. What is  $\tan C$ ?  $\frac{8}{15}$
2. What is  $\sin A$ ?  $\frac{15}{17}$

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

3. What is the length of  $AB$ ? 13
4. What is  $\cos A$ ?  $\frac{5}{13}$
5. What is  $\tan B$ ?  $\frac{5}{12}$

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

6. What is the length of  $AT$ ? 45
7. What is  $\sin C$ ?  $\frac{45}{53}$
8. What is  $\tan A$ ?  $\frac{28}{45}$

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

9. What is the length of  $AB$ ? 16
10. What is  $\tan A$ ?  $\frac{3}{4}$
11. What is  $\cos A$ ?  $\frac{4}{5}$

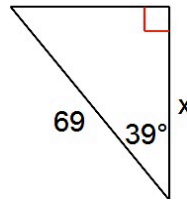
Draw  $\triangle HAT$  where  $\angle H = 90^\circ$  and  $\tan T = \frac{12}{35}$ .

12. What is the length of  $AT$ ? 37
13. What is  $\sin A$ ?  $\frac{35}{37}$
14. What is  $\cos T$ ?  $\frac{35}{37}$

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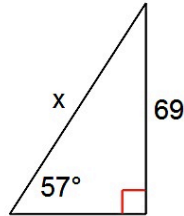
15. Which trig ratio is represented?

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



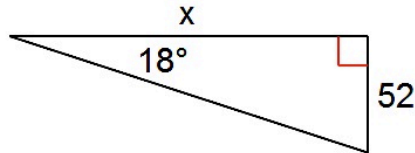
16. Which trig ratio is represented?

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



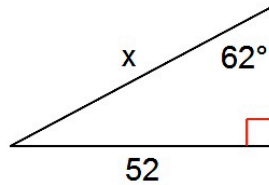
17. Which trig ratio is represented?

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



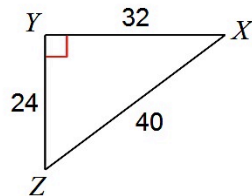
18. Which trig ratio is represented?

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

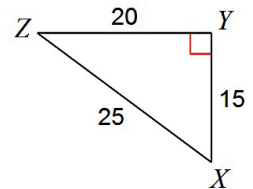


Find each ratio and be sure to reduce, if possible.

19. Tan Z



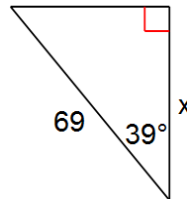
20. Sin X



1. Which trig ratio is represented?

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

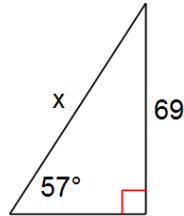
B



2. Which trig ratio is represented?

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

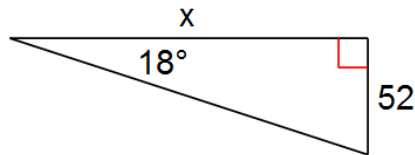
A



3. Which trig ratio is represented?

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

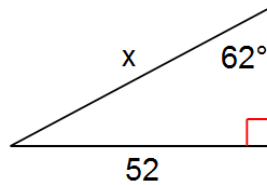
C



4. Which trig ratio is represented?

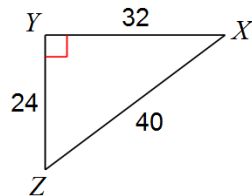
- A. SIN
- B. COS
- C. TAN

A

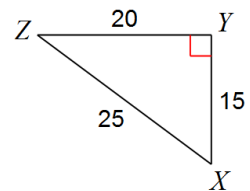


Find each ratio and be sure to reduce, if possible.

5.  $\tan Z = \frac{4}{3}$



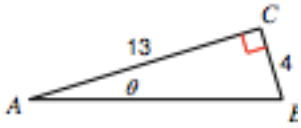
6.  $\sin X = \frac{4}{5}$



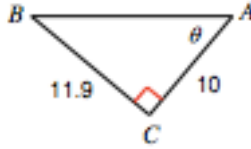
**Homework** 2.9 Trigonometric Ratios (Page 3)

Find the measure of each **angle** indicated. Round to the nearest tenth.

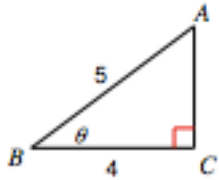
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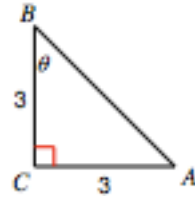

22.




23.

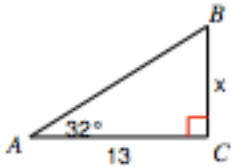



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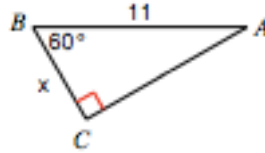



Find the measure of each **side** indicated. Round to the nearest tenth.

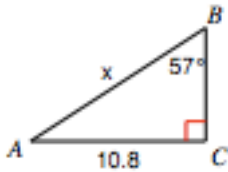
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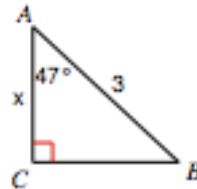

26.




27.

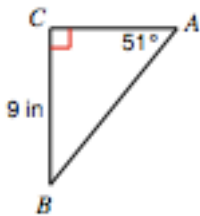



28.

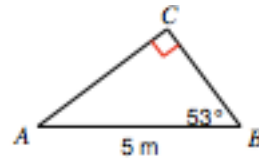



Find all missing sides and all missing angles of the triangle. Round to the nearest tenth.

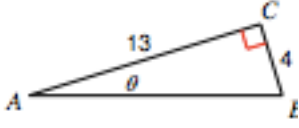
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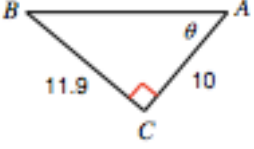


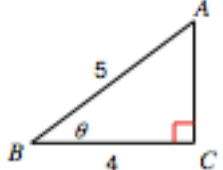

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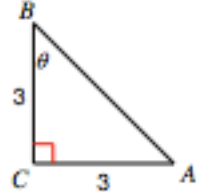


Find the measure of each **angle** indicated. Round to the nearest tenth.

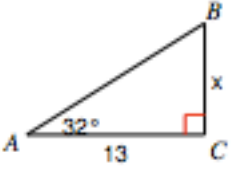
21.  = 17.1°

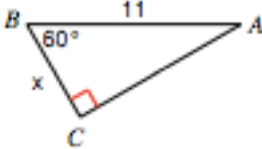
22.  = 50°

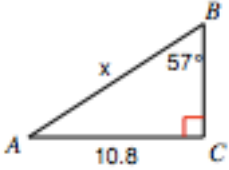
23.  = 36.9°

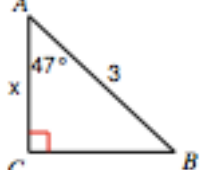
24.  = 45°

Find the measure of each **side** indicated. Round to the nearest tenth.

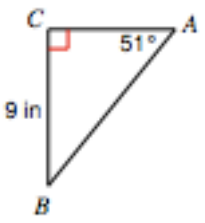
25.  = 8.1

26.  = 5.5

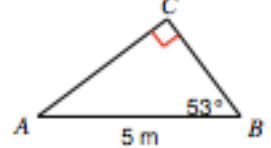
27.  = 12.9

28.  = 2

Find all missing sides and all missing angles of the triangle. Round to the nearest tenth.

29. 

>B = 39°  
AB = 11.6 in  
AC = 7.3 in

30. 

>A = 37°  
AC = 4 m  
BC = 3 m