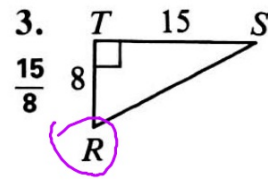
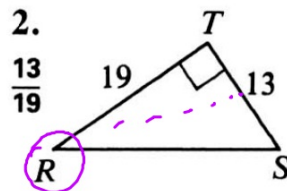
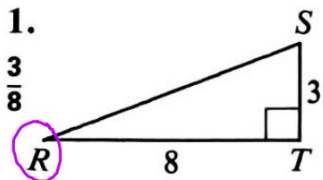


WARMUP

In Exercises 1–3 express $\tan R$ as a ratio.



4–6. Express $\tan S$ as a ratio for each triangle above. $\frac{8}{3}$; $\frac{19}{13}$; $\frac{8}{15}$

7. Use the table on page 311 to complete the statements.

a. $\tan 24^\circ \approx \underline{\quad ? \quad} \mathbf{0.4452}$

b. $\tan 41^\circ \approx \underline{\quad ? \quad} \mathbf{0.8693}$

c. $\tan 88^\circ \approx \underline{\quad ? \quad} \mathbf{28.6363}$

d. $\tan \underline{\quad ? \quad} \approx 2.4751 \mathbf{68^\circ}$

e. $\tan \underline{\quad ? \quad} \approx 0.3057 \mathbf{17^\circ}$

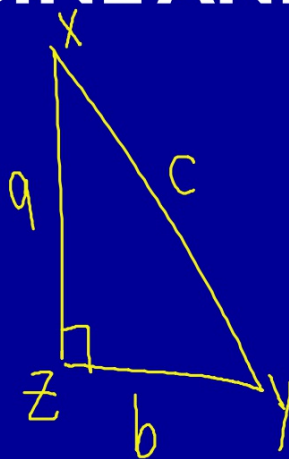
f. $\tan \underline{\quad ? \quad} \approx 0.8098 \mathbf{39^\circ}$

SECTION 8.6: THE SINE AND COSINE RATIOS

Standards:

$$\tan x = \frac{b}{a}$$

$$\tan = \frac{\text{opp}}{\text{adj}}$$



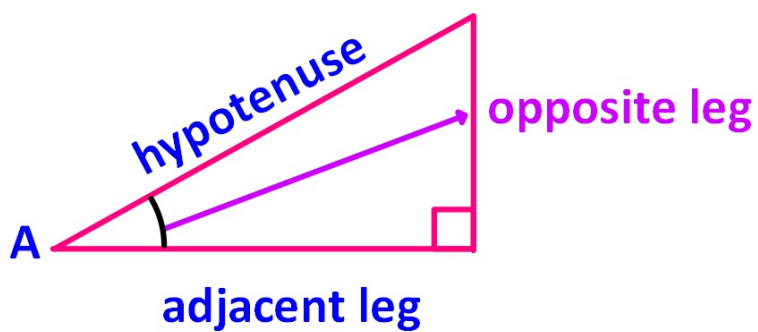
$$\sin(x) = \frac{b}{c} = \frac{\text{opp}}{\text{hyp}}$$

$$\cos(x) = \frac{a}{c} = \frac{\text{adj}}{\text{hyp}}$$

$$\sin y = \frac{a}{c}$$

THE SINE AND COSINE RATIOS

Right triangles only



$$\sin A = \frac{\text{opp}}{\text{hyp}}$$

$$\cos A = \frac{\text{adj}}{\text{hyp}}$$

SOH CAH TOA

$$s = \frac{o}{h}$$

$$c = \frac{a}{h}$$

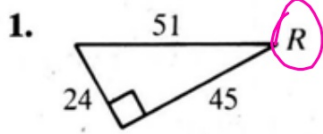
$$t = \frac{o}{a}$$

$$\sin = \frac{\text{opp}}{\text{hyp}}$$

$$\cos = \frac{\text{adj}}{\text{hyp}}$$

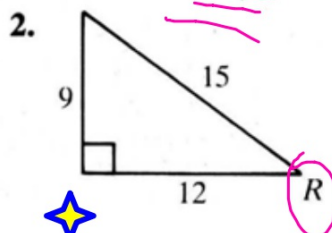
$$\tan = \frac{\text{opp}}{\text{adj}}$$

Express the sine and cosine of $\angle R$ as ratios.



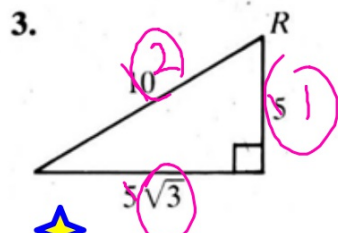
$$\sin R = \frac{24}{51}$$

$$\cos R = \frac{45}{51}$$



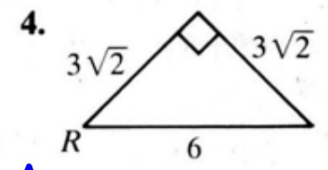
$$\sin R = \frac{9}{15} = \frac{3}{5}$$

$$\cos R = \frac{12}{15} = \frac{4}{5}$$



$$\sin R = \frac{5\sqrt{3}}{10} = \frac{\sqrt{3}}{2}$$

$$\cos R = \frac{5}{10} = \frac{1}{2}$$



$$\sin R = \frac{3\sqrt{2}}{6} = \frac{\sqrt{2}}{2}$$

$$\cos R = \frac{3\sqrt{2}}{6} = \frac{\sqrt{2}}{2}$$

Complete.

5. $\cos 22^\circ \approx \underline{0.9272}$



8. $\sin \underline{?} \approx 0.8746$

✦ 61°

6. $\sin 79^\circ \approx \underline{0.9816}$



9. $\cos \underline{?} \approx 0.3891$

✦ 67°

7. $\cos \underline{39^\circ} \approx 0.7771$

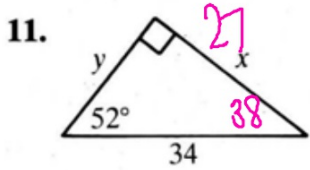


10. $\sin \underline{?} \approx 0.5321$

✦ 32°

\sin^{-1}

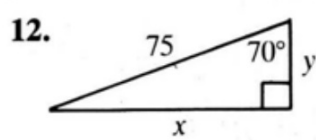
Find the values of x and y to the nearest integer.



$$\sin 52 = \frac{x}{34}$$

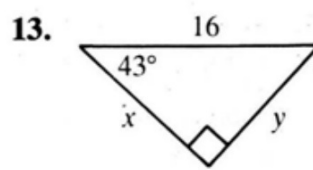
$$34 (\sin 52) = x$$

$$26.79 = x$$



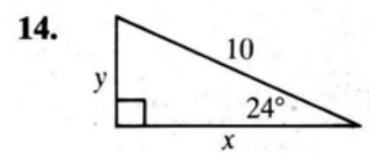
$$x = 70$$

$$y = 26$$



$$x = 12$$

$$y = 11$$

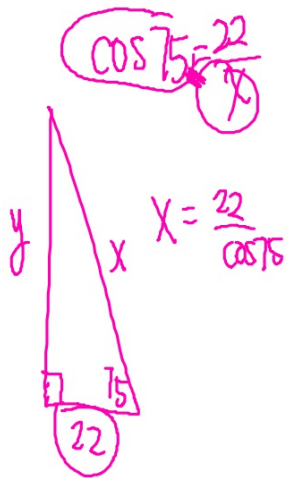
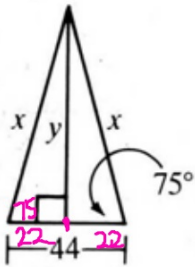


$$x = 9$$

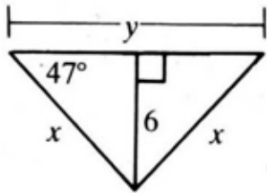
$$y = 4$$

Find the values of x and y to the nearest integer.

15.

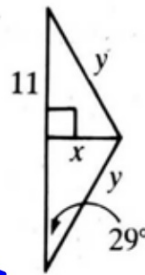


16.



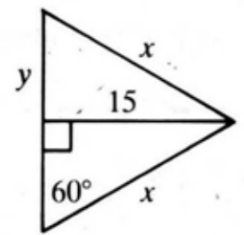
$x=8$
 $y=12$

17.



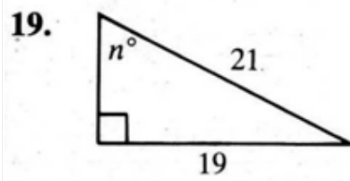
$x=6$
 $y=13$

18.

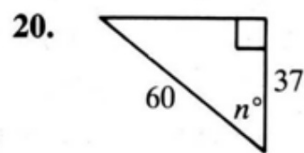


$x=17$
 $y=9$

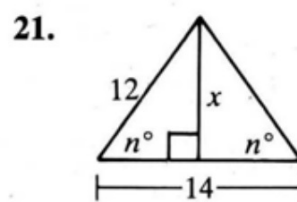
Find the values of the variables to the nearest integer.



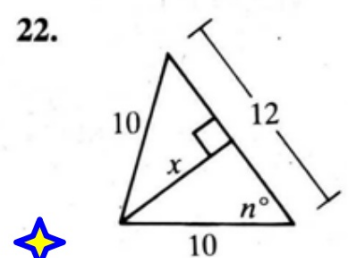
$n=65$



$n=52$



$n=10$



$n=53$

HOMWORK

Assignment #8.6a

- Pages 314-315 #1-10
- WS: The Sine, Cosine, and Tangent Ratios

****TUESDAY FEB 7th - QUIZ 8.1-8.4****

****TUESDAY FEB 14th - QUIZ CH 8****

****THURSDAY FEB 16th - TEST CH 8****

In Exercises 1–12 find the values of the variables.

