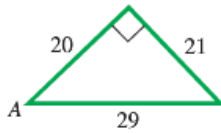


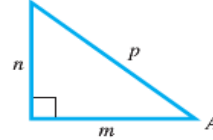
- Give the complement and the supplement of each angle.
  - $45^\circ$
  - $79^\circ$
- Perform each calculation.
  - $71^\circ 58' + 47^\circ 29'$
  - $47^\circ 29' - 71^\circ 58'$
- Convert to DMS or to decimal degrees form. *Round to the nearest second, if needed.*
  - $16.784^\circ$
  - $63^\circ 58' 12''$
  - $82^\circ 30' 09''$
  - $54.9003^\circ$
- Find the smallest positive angle, coterminal with the given one.
  - $-98^\circ$
  - $721^\circ$
  - $238^\circ$
  - $-600^\circ$
- Give an expression that generates all angles coterminal with the given angle. Use  $n$  to represent an integer.
  - $15^\circ$
  - $60^\circ$
- Sketch each angle in standard position and state the quadrant of its terminal. Then list two angles, one positive and one negative, that are coterminal with the given angle.
  - $-75^\circ$
  - $135^\circ$
  - $240^\circ$
  - $60^\circ$
- Find the values of the three trigonometric functions for the angles in standard position having the following points on their terminal sides. Rationalize denominators when applicable.
  - $(-3,4)$
  - $(1, -\sqrt{3})$
  - $(2,5)$
  - $(-1, -1)$
- If the terminal side of an angle  $\theta$  is in quadrant III, what is the sign of each of the trigonometric functions of  $\theta$ ?
- For which quadrantal angles  $\theta$  we can't define the value of  $\tan \theta$  ?
- Determine each function value, using the definition in terms of  $x$ ,  $y$ , and  $r$ . If it is undefined, say so.
  - $\tan 180^\circ$
  - $\sin 90^\circ$
  - $\cos 270^\circ$
  - $\sin 0^\circ$
- Identify the quadrant or quadrants for each angle satisfying the given conditions.
  - $\tan \theta < 0$  and  $\cos \theta < 0$
  - $\sin \theta > 0$  and  $\cos \theta > 0$
  - $\sin \theta < 0$  and  $\cos \theta < 0$
  - $\tan \theta > 0$  and  $\sin \theta < 0$
- Give the signs of the three trigonometric functions for each angle.
  - $135^\circ$
  - $280^\circ$
  - $200^\circ$
- Use identities to find the indicated value.
  - $\cos \alpha$ , if  $\sin \alpha = -\frac{2}{5}$  and  $\alpha \in \text{QIII}$
  - $\tan \alpha$ , if  $\sin \alpha = \frac{1}{3}$  and  $\alpha \in \text{QII}$
- Find the three trigonometric function values for each angle.
  - $\cos \alpha = \frac{2}{3}$  and  $\alpha \in \text{QIV}$
  - $\tan \alpha = -\frac{\sqrt{3}}{2}$  and  $\alpha \in \text{QII}$

15. Find the values of the three trigonometric functions for angle  $A$ . Leave answers as fractions.

a)



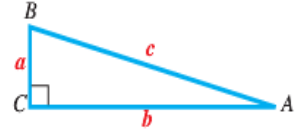
b)



16. Find the unknown side length using the Pythagorean Theorem, and then find the values of the three trigonometric functions for angle  $B$ . Rationalize denominators when applicable.

a)  $a = 5, b = 12$

b)  $b = 7, c = 12$



17. Fill in the blanks.

a)  $\sin 57.3^\circ = \cos(\text{_____})$

b)  $\cos 26^\circ 12' = \sin(\text{_____})$

18. Without a calculator, give the exact value of the trigonometric function.

a)  $\sin 60^\circ$

b)  $\cos 45^\circ$

c)  $\tan 30^\circ$

19. Find the reference angle for the given angle.

a)  $20^\circ$

b)  $135^\circ$

c)  $197^\circ$

d)  $315^\circ$

e)  $-82^\circ$

20. Find the **exact** values of the three trigonometric functions for each angle. Rationalize denominators when applicable.

a)  $-150^\circ$

b)  $45^\circ$

c)  $120^\circ$

d)  $315^\circ$

21. Find all angles  $\theta \in [0, 360^\circ)$  satisfying the given equation.

a)  $\sin \theta = \frac{1}{2}$

b)  $\cos \theta = \frac{\sqrt{2}}{2}$

c)  $\tan \theta = -\sqrt{3}$