

6.1-6.3 Trigonometry Review

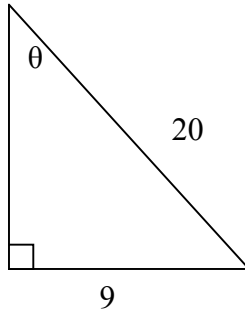
Advanced Algebra

Name _____

Hour _____

Evaluate the exact values of six trigonometric functions of the angle θ .

1.

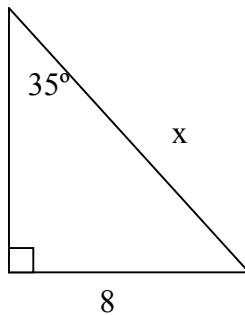


Find the exact values of $\tan \theta$ and $\sec \theta$.

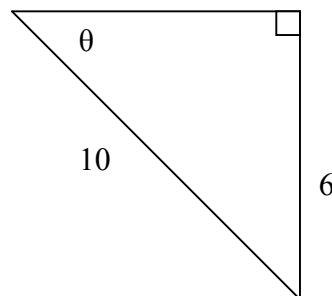
2. $\sin \theta = \frac{3}{7}$

Round to the nearest tenth.

3. Find x .



4. Find the measure of the angle.



Solve the triangles with law of cosines or law of sines. Draw a picture.

5. $A=72^\circ$, $B=35^\circ$, $c=21$

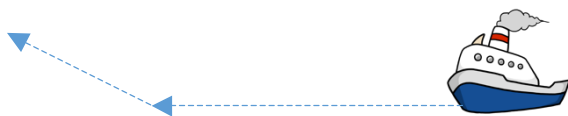
6. $B=46^\circ$, $a=24$, $c=10$

7. $A=42^\circ$, $b=43$, $c=38$

8. $A=15^\circ$, $a=14$, $b=13$

9. You use a 12 foot ramp to load items into a van. If the floor of the van is 4 feet off the ground, what is the angle of elevation of the ramp?

10. A boat travels 40 miles due west before turning 20° and traveling an additional 25 miles. How far is the boat from its point of departure?



11. You are standing 30 feet from the base of a tree. The angle of elevation from your eyes to the top of the tree is 70° . If the height at eye level is 5 feet, what is the height of the tree to the nearest foot?

Complete the following for questions 12-13

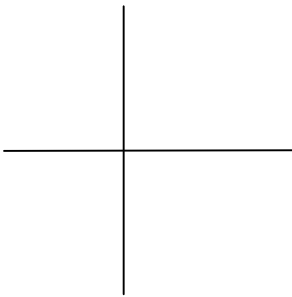
a.) Draw the angle with the given measure in standard position.

b.) Find the reference angle.

c.) Give a positive and negative coterminal angle for each.

12. 420°

a.

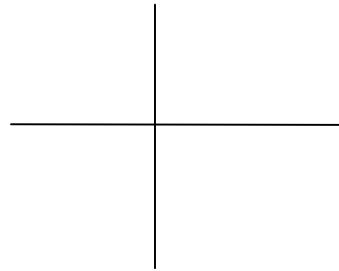


b. _____

c. _____

13. -130°

a.



b. _____

c. _____

Answers

1. $\sin \theta = \frac{9}{20}, \cos \theta = \frac{\sqrt{319}}{20}, \tan \theta = \frac{9\sqrt{319}}{319}, \csc \theta = \frac{20}{9}, \sec \theta = \frac{20\sqrt{319}}{319}, \cot \theta = \frac{\sqrt{319}}{9}$

2. $\tan \theta = \frac{3\sqrt{10}}{20}, \sec \theta = \frac{7\sqrt{10}}{20}$ 3. 13.9 4. 36.9 5. $C=73^\circ, a=20.88, b=12.60$

6. $b=18.51, C=22.87^\circ, A=111.13^\circ$ 7. $a=29.4, C=59.87^\circ, B=78.13^\circ$

8. $B=13.91^\circ, C=151.09^\circ, c=26.15$ 9. 19.5^0 10. 64.1 miles 11. 87 feet

12. a)

b.) 60°

c.) $60^\circ, -300^\circ, 780^\circ, \dots$

13. a.)

b.) 50^0

c.) $230^0, 590^0, -490^0, -850^0 \dots$