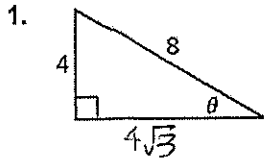


Alg2 9.1-9.3 Review

Name Key Date _____

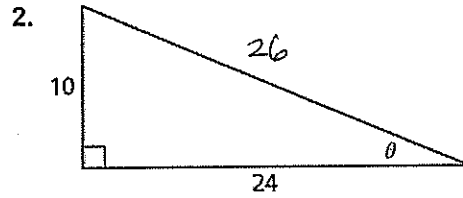
Evaluate the three trigonometric functions of the angle θ , where θ is an acute angle.



$$\sin \theta = \frac{4}{8} = \frac{1}{2}$$

$$\cos \theta = \frac{4\sqrt{3}}{8} = \frac{\sqrt{3}}{2}$$

$$\tan \theta = \frac{4}{4\sqrt{3}} = \frac{1}{\sqrt{3}}$$



$$\sin \theta = \frac{10}{26} = \frac{5}{13}$$

$$\cos \theta = \frac{24}{26} = \frac{12}{13}$$

$$\tan \theta = \frac{10}{24} = \frac{5}{12}$$

Let θ be an acute angle of a right triangle. Evaluate the other two trigonometric functions of θ .

3. $\sin \theta = \frac{4}{11}$

$$\cos \theta = \frac{\sqrt{105}}{11}$$

$$\tan \theta = \frac{4\sqrt{105}}{105}$$

4. $\cos \theta = \frac{5}{6}$

$$\sin \theta = \frac{\sqrt{11}}{6}$$

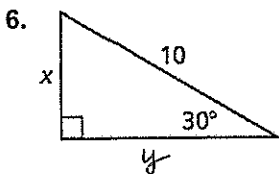
$$\tan \theta = \frac{\sqrt{11}}{5}$$

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

$$\sin \theta = \frac{3}{5}$$

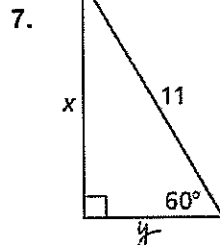
$$\cos \theta = \frac{4}{5}$$

Find the value of x for the right triangle.

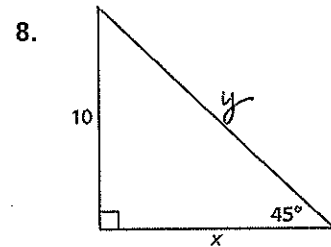


$$x = 5$$

$$y = 5\sqrt{3}$$



$$x = \frac{11\sqrt{3}}{2}, y = \frac{11}{2}$$



$$x = 10, y = 10\sqrt{2}$$

9. A cable is attached to the top of a pole and mounted to the ground 3 feet from the base of the pole. The angle of elevation from the mounting to the top of the pole is 78° . Estimate the height of the pole. Round your answer to the nearest tenth.

$$14.1 \text{ ft}$$

10. A parasailor is attached to a boat with a rope 80 feet long. The angle of elevation from the boat to the parasailor is 36° . Estimate the parasailor's height above the boat. Round your answer to the nearest tenth.

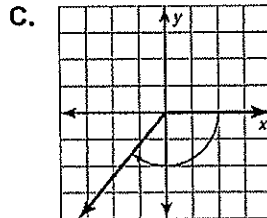
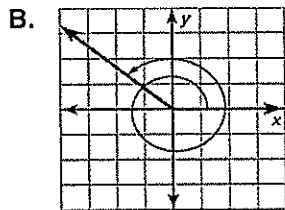
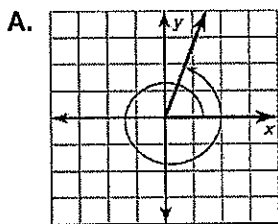
$$47.0 \text{ ft}$$

Match the angle measure with the angle.

11. 500° B

12. $\frac{7\pi}{3}$ A

13. -130° C



Find one positive angle and one negative angle that are coterminal with the given angle. *Answers may vary!*

14. 75° 435°
 -285°

15. -430° 290°
 -70°

16. $\frac{7\pi}{3}$ $\frac{\pi}{3}$, $-\frac{5\pi}{3}$

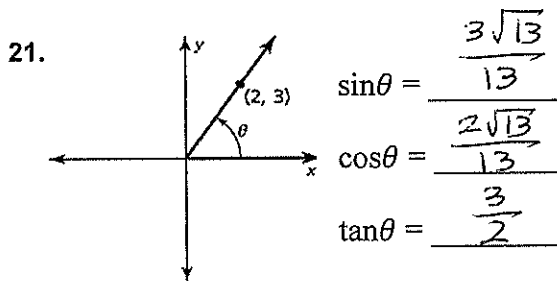
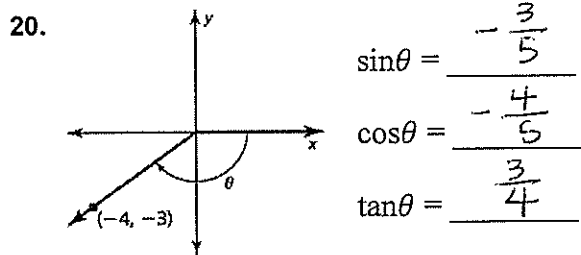
Convert the degree measure to radians or the radian measure to degrees.

17. 200° $\frac{10\pi}{9}$

18. 1° $\frac{\pi}{180}$

19. $\frac{3\pi}{10}$ 54°

Evaluate the three trigonometric functions of θ .



Find the angle's reference angle.

22. -250°
 $\theta' = 70^\circ$

23. $\frac{11\pi}{6}$
 $\theta' = \frac{\pi}{6}$

24. -310°
 $\theta' = 50^\circ$

25. 240°
 $\theta' = 60^\circ$

Evaluate the function without using a calculator.

26. $\tan \frac{5\pi}{4}$
1

27. $\sin 315^\circ$
 $-\frac{\sqrt{2}}{2}$

28. $\cos(-210^\circ)$
 $-\frac{\sqrt{3}}{2}$

29. $\sin 120^\circ$
 $\frac{\sqrt{3}}{2}$

30. $\tan 180^\circ$
0

31. $\cos(-180^\circ)$
-1