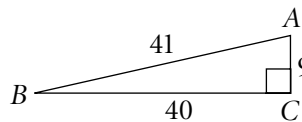


# Practice 11-7

## Trigonometric Ratios

Use  $\triangle ABC$  to evaluate each expression.

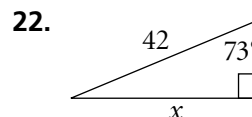
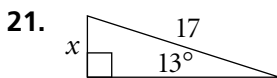
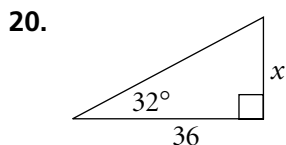
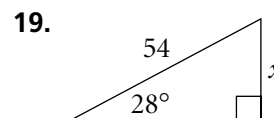
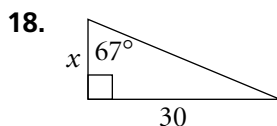
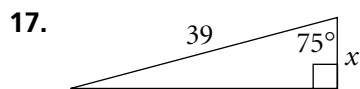
- |             |             |             |
|-------------|-------------|-------------|
| 1. $\sin A$ | 2. $\cos A$ | 3. $\tan A$ |
| 4. $\sin B$ | 5. $\cos B$ | 6. $\tan B$ |



Evaluate each expression. Round to the nearest ten-thousandth.

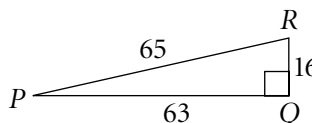
- |                     |                     |                     |                     |                     |
|---------------------|---------------------|---------------------|---------------------|---------------------|
| 7. $\tan 59^\circ$  | 8. $\sin 75^\circ$  | 9. $\sin 8^\circ$   | 10. $\cos 13^\circ$ | 11. $\sin 32^\circ$ |
| 12. $\tan 67^\circ$ | 13. $\cos 17^\circ$ | 14. $\cos 36^\circ$ | 15. $\tan 19^\circ$ | 16. $\cos 58^\circ$ |

Find the value of  $x$  to the nearest tenth.



Use  $\triangle PQR$  to evaluate each expression.

- |              |              |              |
|--------------|--------------|--------------|
| 23. $\sin P$ | 24. $\cos P$ | 25. $\tan P$ |
| 26. $\sin R$ | 27. $\cos R$ | 28. $\tan R$ |



29. A tree casts a shadow that is 20 ft long. The angle of elevation of the sun is  $29^\circ$ . How tall is the tree?
30. Suppose your angle of elevation to the top of a water tower is  $78^\circ$ . If the water tower is 145 ft tall, how far are you standing from the water tower?
31. The angle of elevation from the control tower to an airplane is  $49^\circ$ . The airplane is flying at 5000 ft. How far away from the control tower is the plane?
32. A Boy Scout on top of a 1700-ft-tall mountain spots a campsite. If he measures the angle of depression at  $35^\circ$ , how far is the campsite from the foot of the mountain?
33. A 12-ft-long guy wire is attached to a telephone pole 10.5 ft from the top of the pole. If the wire forms a  $52^\circ$  angle with the ground, how high is the telephone pole?