

4-7 The Law of Sines and the Law of Cosines

Solve each triangle. Round side lengths to the nearest tenth and angle measures to the nearest degree.

27. $\triangle ABC$, if $A = 42^\circ$, $b = 12$, and $c = 19$

29. $\triangle PQR$, if $P = 73^\circ$, $q = 7$, and $r = 15$

31. $\triangle RST$, if $r = 35$, $s = 22$, and $t = 25$

33. $\triangle BCD$, if $B = 16^\circ$, $c = 27$, and $d = 3$

35. **AIRPLANES** During her shift, a pilot flies from the Columbus to Atlanta, a distance of 448 miles, and then on to the Phoenix, a distance of 1583 miles. From Phoenix, she returns home to Columbus, a distance of 1667 miles. Determine the angles of the triangle created by her flight path.

36. **CATCH** Lola rolls a ball on the ground at an angle of 23° to the right of her dog Buttons. If the ball rolls a total distance of 48 feet, and she is standing 30 feet away, how far will Buttons have to run to retrieve the ball?