HW: Pages 528-529: 25-35 odd, 42, 43, 47

Pages 535-536: 33, 35, 37, 47, 51

Pages 528-529:

In Problems 25–36, two sides and an angle are given. Determine whether the given information results in one triangle, two triangles, or no triangle at all. Solve each triangle that results.

25. $a = 3,\ b = 2,\ A = 50°$ **26.** $b = 4,\ c = 3,\ B = 40°$ **27.** $b = 5,\ c = 3,\ B = 100°$

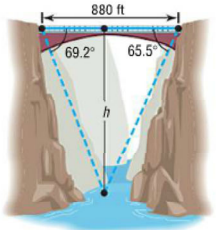
28. $a = 2,\ c = 1,\ A = 120°$ **29.** $a = 4,\ b = 5,\ A = 60°$ **30.** $b = 2,\ c = 3,\ B = 40°$

31. $b = 4,\ c = 6,\ B = 20°$ **32.** $a = 3,\ b = 7,\ A = 70°$ **33.** $a = 2,\ c = 1,\ C = 100°$

34. $b = 4,\ c = 5,\ B = 95°$ **35.** $a = 2,\ c = 1,\ C = 25°$ **36.** $b = 4,\ c = 5,\ B = 40°$

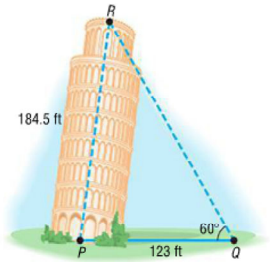
42. Finding the Height of the Bridge over the Royal Gorge The highest bridge in the world is the bridge over the Royal Gorge of the Arkansas River in Colorado. Sightings to the same point at water level directly under the bridge are taken from each side of the 880-foot-long bridge, as indicated in the figure. How high is the bridge?

Source: Guinness Book of World Records



43. Landscaping Pat needs to determine the height of a tree before cutting it down to be sure that it will not fall on a nearby fence. The angle of elevation of the tree from one position on a flat path from the tree is 30°, and from a second position 40 feet farther along this path it is 20°. What is the height of the tree?

47. Finding the Lean of the Leaning Tower of Pisa The famous Leaning Tower of Pisa was originally 184.5 feet high.* At a distance of 123 feet from the base of the tower, the angle of elevation to the top of the tower is found to be 60°. Find $\angle RPQ$ indicated in the figure. Also, find the perpendicular distance from R to PQ.



Pages 535-536:

Mixed Practice

In Problems 33–42, solve each triangle using either the Law of Sines or the Law of Cosines.

33. $B = 20°, C = 75°, b = 5$ **35.** $a = 6, b = 8, c = 9$ **37.** $B = 35°, C = 65°, a = 15$

47. Major League Baseball Field A Major League baseball diamond is actually a square 90 feet on a side. The pitching rubber is located 60.5 feet from home plate on a line joining home plate and second base.

(a) How far is it from the pitching rubber to first base?
(b) How far is it from the pitching rubber to second base?
(c) If a pitcher faces home plate, through what angle does he need to turn to face first base?

51. Wrigley Field, Home of the Chicago Cubs The distance from home plate to the fence in dead center in Wrigley Field is 400 feet (see the figure). How far is it from the fence in dead center to third base?