

HW: Page 517: 51, 53, 55

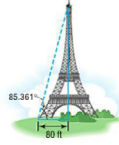
Pages 527-528: 19, 21, 37, 41

Pages 535-536: 13, 21, 43, 45

these are all odd #ed problems....check your answers!

Page 517

51. The Eiffel Tower The tallest tower built before the era of television masts, the Eiffel Tower was completed on March 31, 1889. Find the height of the Eiffel Tower (before a television mast was added to the top) using the information given in the illustration.



53. Finding the Distance to a Plateau Suppose that you are headed toward a plateau 50 meters high. If the angle of elevation to the top of the plateau is 20° , how far are you from the base of the plateau?

55. Finding the Angle of Elevation of the Sun At 10 AM on April 26, 2009, a building 300 feet high casts a shadow 50 feet long. What was the angle of elevation of the Sun?

Pages 527-528:

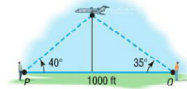
In Problems 17-24, solve each triangle.

19. $B = 70^\circ$, $C = 10^\circ$, $b = 5$ 21. $A = 110^\circ$, $C = 30^\circ$, $c = 3$

37. Rescue at Sea Coast Guard Station Able is located 130 miles due south of Station Baker. A ship at sea sends an SOS call that is received by each station. The call to Station Able indicates that the ship is located $N55^\circ E$; the call to Station Baker indicates that the ship is located $S60^\circ E$.

- (a) How far is each station from the ship?
(b) If a helicopter capable of flying 200 miles per hour is dispatched from the station nearest the ship, how long will it take to reach the ship?

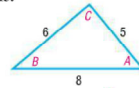
41. Finding the Height of an Airplane An aircraft is spotted by two observers who are 1000 feet apart. As the airplane passes over the line joining them, each observer takes a sighting of the angle of elevation to the plane, as indicated in the figure. How high is the airplane?



Pages 535-536:

In Problems 9-16, solve each triangle.

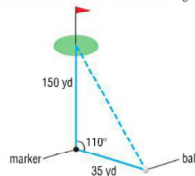
13.



In Problems 17-32, solve each triangle.

21. $a = 3$, $c = 2$, $B = 110^\circ$

43. Distance to the Green A golfer hits an errant tee shot that lands in the rough. A marker in the center of the fairway is 150 yards from the center of the green. While standing on the marker and facing the green, the golfer turns 110° toward his ball. He then paces off 35 yards to his ball. See the figure. How far is the ball from the center of the green?



45. Avoiding a Tropical Storm A cruise ship maintains an average speed of 15 knots in going from San Juan, Puerto Rico, to Barbados, West Indies, a distance of 600 nautical miles. To avoid a tropical storm, the captain heads out of San Juan in a direction of 20° off a direct heading to Barbados. The captain maintains the 15-knot speed for 10 hours, after which time the path to Barbados becomes clear of storms.

- (a) Through what angle should the captain turn to head directly to Barbados?
(b) Once the turn is made, how long will it be before the ship reaches Barbados if the same 15-knot speed is maintained?

