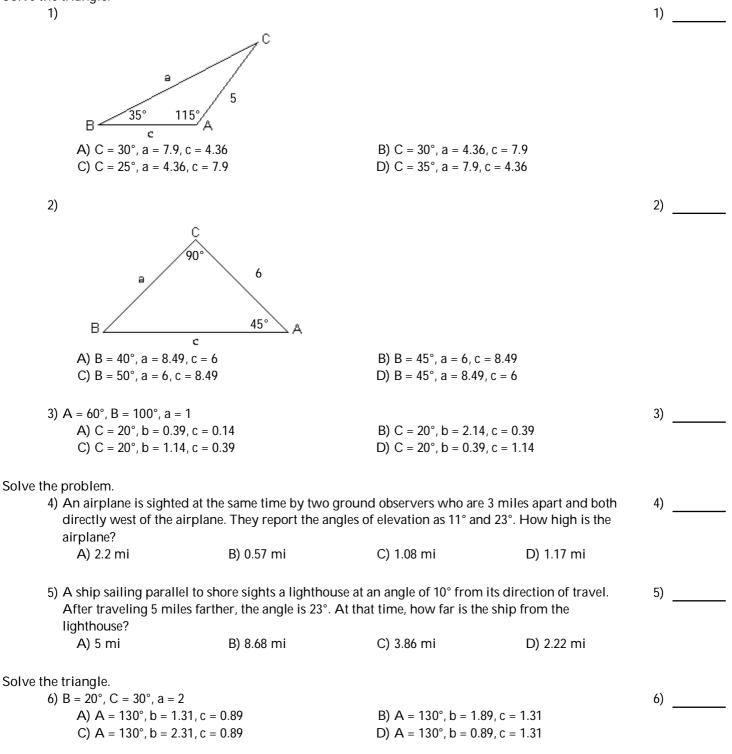
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Solve the triangle.



SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Solve the problem. 7) Two surveyors 180 meters apart on the same side of a river measure their respective angles 7) \_\_\_\_\_ to a point between them on the other side of the river and obtain 54° and 68°. How far from the point (line-of-sight distance) is each surveyor? Round your answer to the nearest 0.1 meter. MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. 8) A flagpole is perpendicular to the horizontal but is on a slope that rises 10° from the horizontal. The 8) pole casts a 43-foot shadow down the slope and angle of elevation of the sun measured from the slope is 36°. How tall is the pole? Round your answer to the nearest 0.1 foot. A) 33.5 ft B) 36.2 ft C) 35.4 ft D) 36.4 ft 9) It is 4.7 km from Lighthouse A to Port B. The bearing of the port from the lighthouse is N73°E. A 9) ship has sailed due west from the port and its bearing from the lighthouse is N31°E. How far has the ship sailed from the port? Round your answer to the nearest 0.1 km. A) 3.7 km B) 3.1 km C) 2.7 km D) 3.5 km 10) To find the distance AB across a river, a distance BC of 1034 m is laid off on one side of the river. It 10) is found that  $B = 104.0^{\circ}$  and  $C = 13.9^{\circ}$ . Find AB. Round to the nearest meter. A) 284 m B) 281 m C) 248 m D) 245 m Solve the triangle. 11) 11) 20 5 P A) c = 11.44,  $A = 24.5^{\circ}$ ,  $B = 35.5^{\circ}$ B) c = 10.44,  $A = 24.5^{\circ}$ ,  $B = 35.5^{\circ}$ C) c = 10.44,  $A = 35.5^{\circ}$ ,  $B = 24.5^{\circ}$ D) c = 9.44, A = 35.5°, B = 24.5° 12) 12) С b 5 25° A) b = 3.25, A = 40.6°, C = 114.4° B) b = 4.25,  $A = 40.6^{\circ}$ ,  $C = 114.4^{\circ}$ C) b = 3.25,  $A = 114.4^{\circ}$ ,  $C = 40.6^{\circ}$ D) b = 2.25,  $A = 114.4^{\circ}$ ,  $C = 40.6^{\circ}$ Find the area of the triangle. If necessary, round the answer to two decimal places. 13)  $A = 83^{\circ}$ , b = 9, c = 613) A) 53.60 B) 26.80 C) 27.01 D) 3.29

C) 26

14)

D) 28

14)  $A = 30^{\circ}$ , b = 14, c = 8

B) 48.5

A) 50.5

course error and tells the st	peed of 140 miles udent to correct hi	ria, a student pilot sets a hea per hour. After 15 minutes, tl s heading. Through what an y is Peoria when the plane tu B) 159.8°; 74.43 mi D) 20.2°; 51.28 mi	he instructor notices the gle will the plane move to	15)
16) A plane flying a straight course observes a mountain at a bearing of 33.9° to the right of its course. At that time the plane is 7 kilometers from the mountain. A short time later, the bearing to the mountain becomes 43.9°. How far is the plane from the mountain when the second bearing is taken (to the nearest tenth of a km)?				16)
A) 9.6 km	B) 8.7 km	C) 3.8 km	D) 5.6 km	
<ul><li>17) The distance from home pl baseball diamond is a squa from first base to dead cent</li><li>A) 380.6 ft</li></ul>	re with a distance	field in a certain baseball stac from home plate to first base C) 328.2 ft		17)
18) A ladder leans against a building that has a wall slanting away from the ladder at an angle of 96° with the ground. If the bottom of the ladder is 23 feet from the base of the wall and it reaches a point 52 feet up the wall, how tall is the ladder to the nearest foot?				18)
A) 58 ft	B) 60 ft	C) 59 ft	D) 61 ft	
<ul> <li>19) Two sailboats leave a harbor in the Bahamas at the same time. The first sails at 22 mph in a direction 350°. The second sails at 33 mph in a direction 220°. Assuming that both boats maintain speed and heading, after 3 hours, how far apart are the boats?</li> <li>A) 150.2 mi</li> <li>B) 131 mi</li> <li>C) 114.5 mi</li> <li>D) 99.9 mi</li> </ul>				19)
<ul> <li>20) Two points A and B are on opposite sides of a building. A surveyor selects a third point C to place a transit. Point C is 52 feet from point A and 67 feet from point B. The angle ACB is 60°. How far apart are points A and B?</li> <li>A) 60.9 ft</li> <li>B) 103.3 ft</li> <li>C) 94.5 ft</li> <li>D) 73.8 ft</li> </ul>				20)
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