

10.REV.1 ~ END OF UNIT REVIEW

Use the right triangle trigonometry, the Law of Sines, or the Law of Cosines to solve the triangle.

SHOW ALL WORK. Round angle measures to the nearest tenth of a degree; round side lengths to the nearest hundredth.

1. $a = 21, b = 29, c = 13$

2. $m\angle A = 74.3^\circ, a = 43, c = 32$

$$\angle A = \underline{\hspace{2cm}} \quad \angle B = \underline{\hspace{2cm}} \quad \angle C = \underline{\hspace{2cm}} \quad b = \underline{\hspace{2cm}} \quad \angle B = \underline{\hspace{2cm}} \quad \angle C = \underline{\hspace{2cm}}$$

3. $m\angle C = 90^\circ, m\angle A = 32.5^\circ, b = 19.4$

4. $m\angle A = 58^\circ, b = 34, c = 15$

$$a = \underline{\hspace{2cm}} \quad c = \underline{\hspace{2cm}} \quad \angle B = \underline{\hspace{2cm}} \quad a = \underline{\hspace{2cm}} \quad \angle B = \underline{\hspace{2cm}} \quad \angle C = \underline{\hspace{2cm}}$$

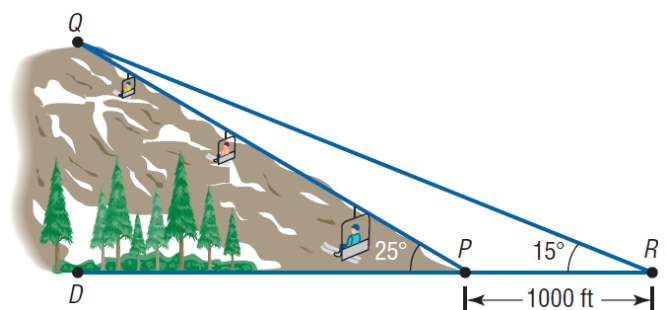
5. $m\angle B = 118^\circ, m\angle C = 30^\circ, a = 36$

6. $m\angle B = 90^\circ, b = 12, c = 28$

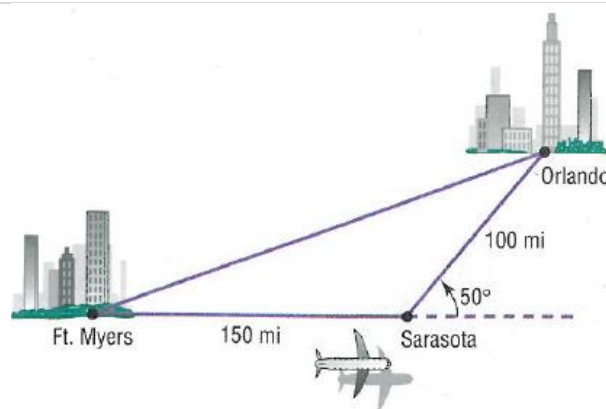
$$b = \underline{\hspace{2cm}} \quad c = \underline{\hspace{2cm}} \quad \angle A = \underline{\hspace{2cm}} \quad a = \underline{\hspace{2cm}} \quad \angle A = \underline{\hspace{2cm}} \quad \angle C = \underline{\hspace{2cm}}$$

Use right triangle trigonometry, the Law of Sines, or the Law of Cosines to solve each problem. Round solutions to the nearest tenth; unless otherwise stated.

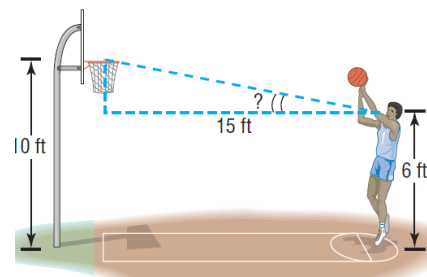
7. To find the length of the span of a proposed ski lift from Q to P , a surveyor measures the angle DPQ to be 25° and then walks off a distance of 1000 feet to R and measures the angle PRQ to be 15° . (a) What is the length of the ski lift? (b) What is the height of the mountain?



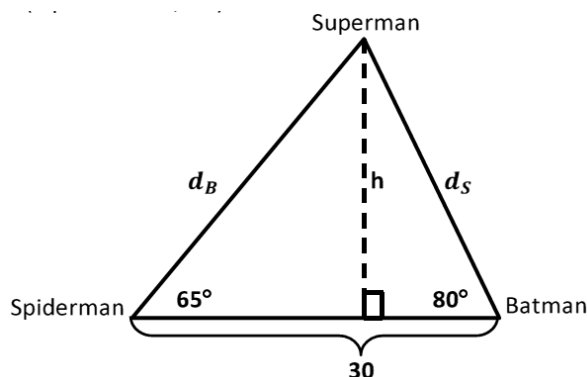
8. An airplane flies from Ft. Myers to Sarasota, a distance of 150 miles, and then turns through an angle of 50° (see the figure) and flies to Orlando, a distance of 100 miles. Find the distance between Orlando and Ft. Myers.



9. The eyes of a basketball player are 6 feet above the floor. The player is at the free-throw line, which is 15 feet from the center of the basket rim. The rim is 10 feet above the floor. What is the angle of elevation from the player's eyes to the center of the rim?



10. Look...up in the sky! It's a bird, no it's a plane, no...it's Superman! Spiderman and Batman, who are standing 30 yards from each other, both spot Superman flying above. Spiderman sees Superman at an angle of elevation of 65° , while Batman spots Superman at an 80° angle of elevation. How high is Superman flying?



11. A blimp suspended in the air at a height of 500 feet, lies directly over a line from Soldier Field to the Adler Planetarium on Lake Michigan (see the figure). If the angle of depression from the blimp to the stadium is 32° and from the blimp to the planetarium is 23° , find the distance between Soldier Field and the Adler Planetarium. *Hint: Use two right triangles.*

