

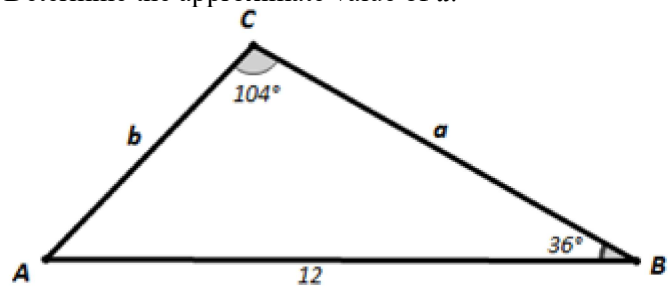
Sample Quiz 01-04-Law Of Sines

Multiple Choice

Identify the choice that best completes the statement or answers the question.

_____ 1. **Law of Sines**

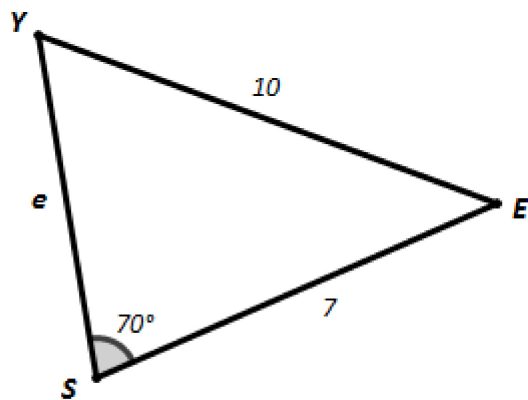
Determine the approximate value of a .



- a. 18.11 c. 7.95
b. 7.05 d. 9.71

_____ 2. **Law of Sines**

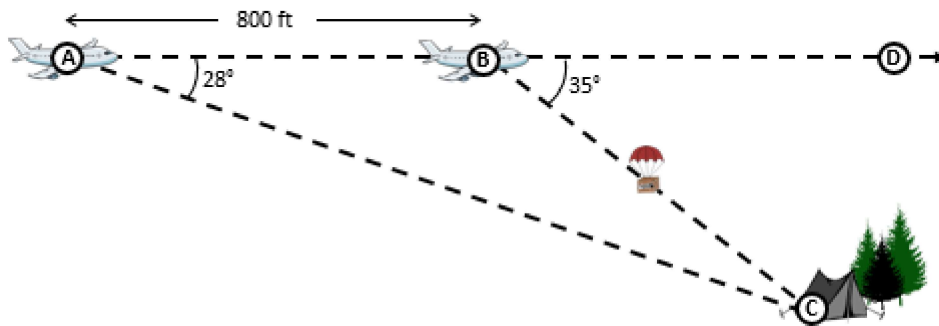
Determine the approximate measure of $\angle Y$



- a. 44.4° c. 0.658°
b. 41.1° d. 68.9°

3. **Law of Sines**

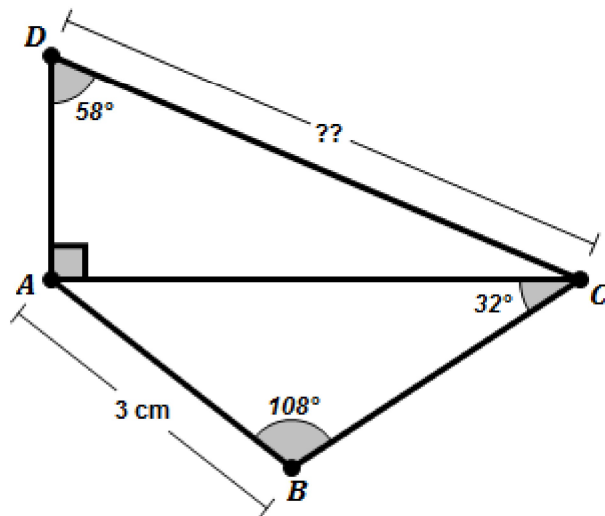
Two Planes are flying in a straight line towards a stranded campsite and are trying to parachute in some supplies. The furthest plane away from the campsite (at point A) spots the camp at an angle of depression of 28° . The second plane that is closer (at point B) spots the camp site at angle of depression of 35° . If the planes are 800 feet apart and the closer plane drops supplies that roughly follow the straight line from point B to point C, how far will the supplies travel in the air? (i.e. what is the length of the segment BC?)



- a. 655 feet
b. 977 feet
c. 3082 feet
d. 3765 feet

4. **Law of Sines**

Using the provided measures determine the length of the segment DC.



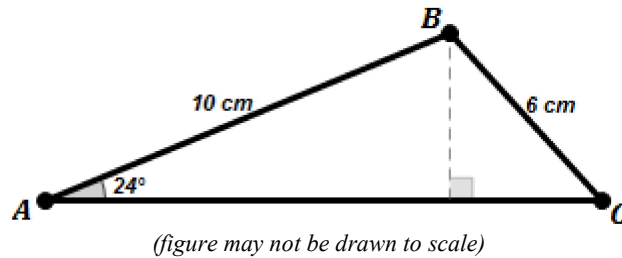
- a. 3.54 cm
b. 5.38 cm
c. 5.66 cm
d. 6.35 cm

5.

Given a triangle ABC has the following measures:

- $AB = 10\text{ cm}$
- $BC = 6\text{ cm}$
- $m\angle A = 24^\circ$

Which case best describes any possible triangle(s) with those measures?



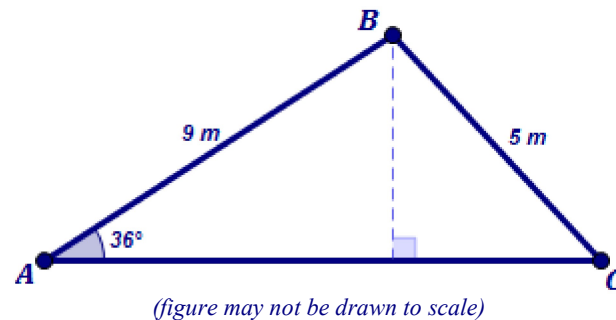
- Case #1:** It is impossible to create a triangle using those measures.
- Case #2:** There is only one unique right triangle with the right angle at vertex 'A' that can be created using those measures.
- Case #3:** There are 2 different types of triangles that can be created using those measures. (i.e. there is an ambiguous case is possible)
- Case #4:** There is only one unique triangle that can be created using those measures because $BC > AB$.

6.

Given a triangle ABC has the following measures:

- $AB = 9\text{ m}$
- $BC = 5\text{ m}$
- $m\angle A = 36^\circ$

Which case best describes any possible triangle(s) with those measures?



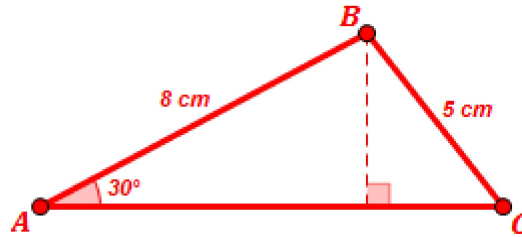
- Case #1:** It is impossible to create a triangle using those measures.
- Case #2:** There is only one unique right triangle with the right angle at vertex 'A' that can be created using those measures.
- Case #3:** There are 2 different types of triangles that can be created using those measures. (i.e. there is an ambiguous case is possible)
- Case #4:** There is only one unique triangle that can be created using those measures because $BC > AB$.

7. **Law of Sines Ambiguous Case**

Consider a triangle ABC has the following measures:

- $AB = 8 \text{ cm}$
- $BC = 5 \text{ cm}$
- $m\angle A = 30^\circ$

Two distinct triangles can be created using those measures. What is the measure of the angle at vertex B for each triangle? (Round to the nearest tenth.)



(figure may not be drawn to scale)

- a. **Triangle 1:** $m\angle B_1 = 131.8^\circ$
Triangle 2: $m\angle B_2 = 48.2^\circ$

- b. **Triangle 1:** $m\angle B_1 = 92.0^\circ$
Triangle 2: $m\angle B_2 = 88.0^\circ$

- c. **Triangle 1:** $m\angle B_1 = 96.9^\circ$
Triangle 2: $m\angle B_2 = 23.1^\circ$

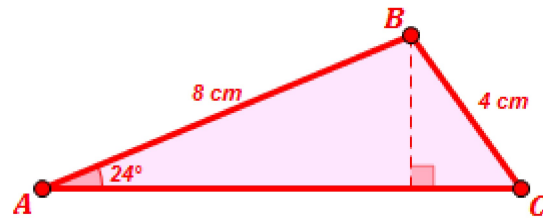
- d. **Triangle 1:** $m\angle B_1 = 90.0^\circ$
Triangle 2: $m\angle B_2 = 60.0^\circ$

8. **Law of Sines Ambiguous Case**

Consider a triangle ABC has the following measures:

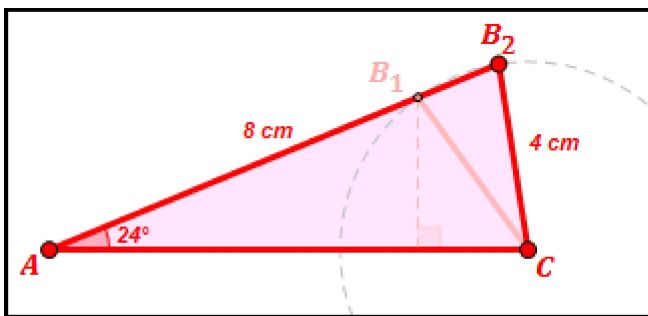
- $AB = 8\text{ cm}$
- $BC = 4\text{ cm}$
- $m\angle A = 24^\circ$

Two distinct triangles can be created using those measures. The triangle shown at the right is the STANDARD or regular case. Which of the below diagrams would best represent the AMBIGUOUS case?

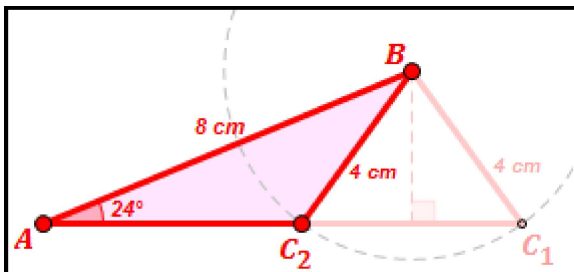


(figure may not be drawn to scale)

a.



b.



c.

