

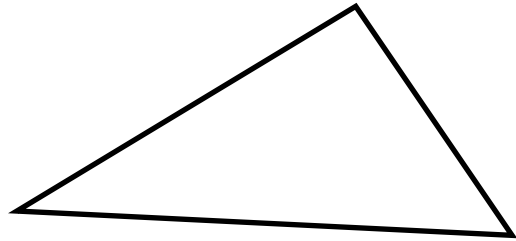
UNIT 3: TRIGONOMETRY
DAY 1: SINE LAW

RECALL: Trig. Ratios can only be used with RIGHT-ANGLED TRIANGLES (SOH-CAH-TOA).

Oblique \triangle 's: a triangle that is NOT right-angled.

We can solve an oblique triangle by using one of two methods: SINE LAW or COS LAW.

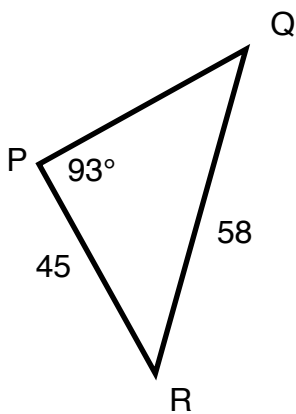
SINE LAW:



Use when given:

- 2 angles and any side
- 2 sides and an angle opposite one of those sides

Ex. 1) Find the measure of $\angle Q$.

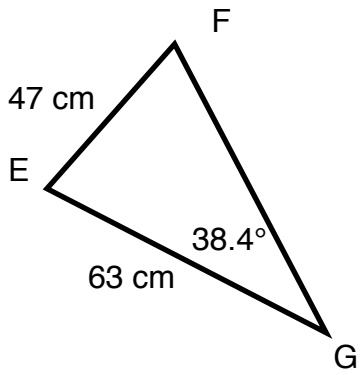


STEPS:

1. Label sides (lower case)
2. Set up formula

3. Fill in and solve

Ex. 2) Find $\angle A$ and side B.

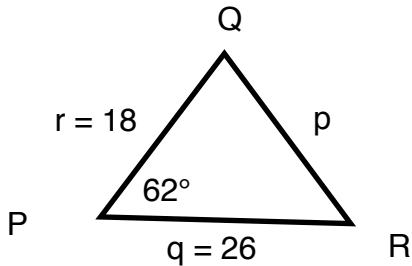


Ex. 3) In $\triangle ABC$, $\angle A = 65.5^\circ$, $\angle B = 40^\circ$, $AB = 7.25$ cm, find b.

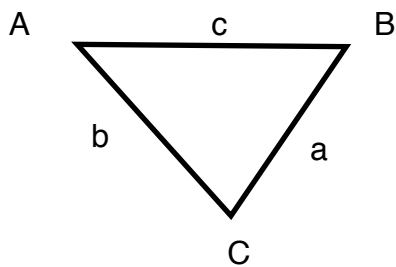
UNIT 3: TRIGONOMETRY
DAY 2: COSINE LAW

Why do we need another law for non-right angled triangles? Why not just use SINE LAW?

Background:



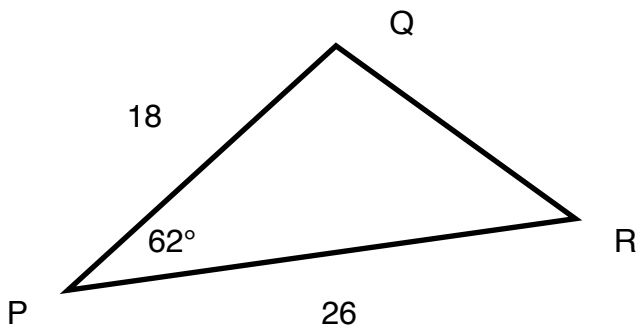
COSINE LAW: was developed to solve oblique triangles.



Use when given:

- All 3 sides
- Sandwich (2 sides with one angle in between)

Ex. 1) Solve the triangle.



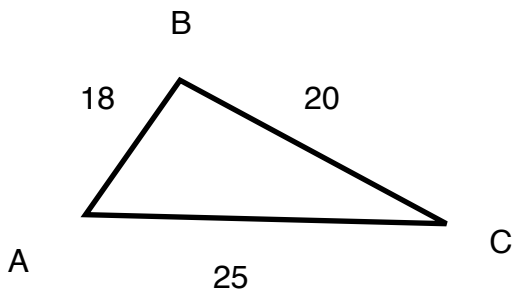
Ex. 2) In $\triangle PQR$, $q = 5.07$ cm, $r = 9.02$ cm, $p = 6.18$ cm. Find the smallest angle in the triangle. (Hint: The smallest angle is opposite the smallest side).

Ex. 3) In $\triangle ABC$, $a = 38$ cm, $b = 47$ cm, $\angle C = 112.6^\circ$, Find c .

UNIT 3: TRIGONOMETRY

DAY 3: COSINE LAW (CONTINUED) & PROBLEMS USING SINE AND COSINE LAW

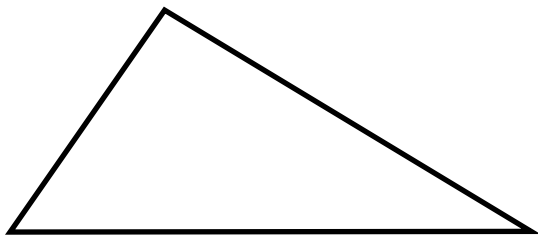
Ex. 1) Solve the triangle.



Recall: COSINE LAW can be used when given:

- all 3 sides
- Sandwich (2 sides and 1 angle in between)

PROOF



PROBLEMS USING SINE AND COSINE LAW

Ex. 1) Find the distance across a small bay, given the diagram.