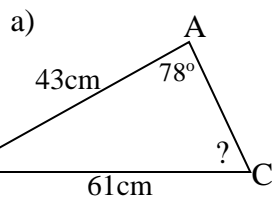


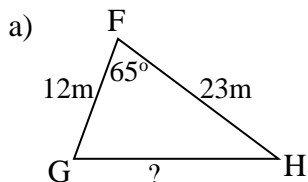
## Law of Sines or Cosines?

1. Use the Sine Law to solve for the indicated side or angle.



b)  $\triangle PQR$   $\angle P = 112^\circ$ ,  $p = 32$ ,  $\angle R = 47^\circ$ ; find side  $r$

2) Use the Cosine Law to solve for the indicated side or angle.



b)  $\triangle XYZ$   $x = 20$  ft,  $y = 25$  ft,  $z = 18$  ft; Find  $\angle Z$

2. For each of the following: - Draw a sketch of the triangle described  
 - Decide whether to use Law of Sines or Law of Cosines  
 - Solve for unknowns indicated

(a)  $\triangle BAT$   $b = 6$ ,  $a = 7$ ,  $t = 12$ ; find  $\angle T$

(b)  $\triangle ABC$   $\angle A = 65^\circ$ ,  $\angle B = 40^\circ$ ,  $a = 15$ ; find  $b$

(c)  $\triangle ABC$   $\angle A = 39^\circ$ ,  $b = 45$ ,  $c = 32$ ; find  $a$

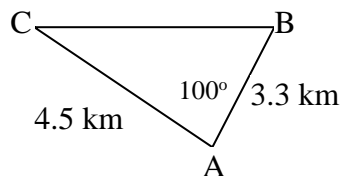
3. Find **all** the missing sides and angles:

(a)  $\triangle JMP$ :  $j = 15$  m,  $m = 9$  m,  $p = 20.5$  m

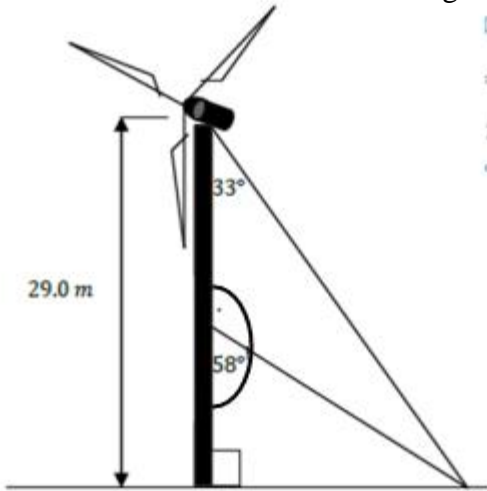
(b)  $\triangle PRT$ :  $\angle T = 108^\circ$ ,  $p = 12.8$  cm,  $t = 17$  cm

4. Solve each of the following:

(a) A radar station at A is tracking ships at B and C.  
 How far apart are the two ships?



(b) A windmill on a farm is supported by two guy wires, as shown below. Find the length of the guy wires A and B. (Hint: Guy wire B does **NOT** split the 29.0m windmill height in half and the semi-circle shown below indicates a straight line created by the windmill).



(c) Reilly enjoys swimming in the ocean. One day he decides to swim 9.2 km from Island A to Island B. After resting a few moments, he swam 8.6 km to Island C. If the angle formed at Island B is 78° angle, determine how much further Reilly swam by swimming to Island B first, than by simply swimming straight from Island A to Island C

(d) Find the area of the following (Hint: need to draw/find a height for triangle creating a 90° angle and you will need at least 1 of the 3 angles in the triangle;  $A = \frac{b \times h}{2}$ ).

