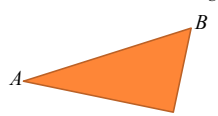



SECTION 3.4 SINE LAW AND COSINE LAW

D) SINE LAW



- The Sine Law is for solving triangles that are not RT



- The Sine Law can only be used when you are given



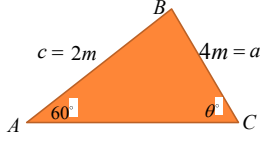
EX: FIND THE VALUE OF "X"

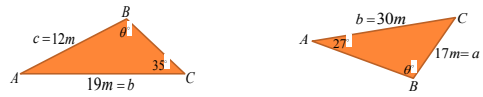
II) FINDING MISSING ANGLES

- To find the angle, you need to use
- If the angle is

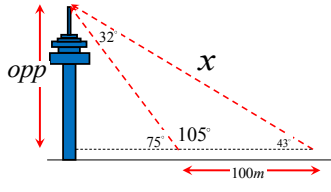
Ex: Find the value of "θ" to the nearest degree



PRACTICE: FIND θ TO THE NEAREST DEGREE



Ex: THE ANGLE OF ELEVATION TO THE TOP OF THE TOWER IS 43°. IF YOU TRAVELS 100M CLOSER, THE ANGLE IS 75°. HOW TALL IS THE TOWER? ASSUME THE PERSON IS ABOUT 1.5M TALL.

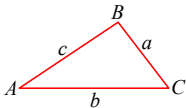


PRACTICE: A SHIP LEAVES BATUMI ON A BEARING 300 AND SAILS 860KM. THEY THEN CHANGE DIRECTION ON A BEARING OF 222 AND SAIL FOR 580KM AND REACHED ISTANBUL. HOW FAR IS BATUMI FROM ISTANBUL?

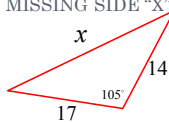
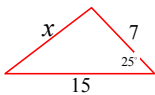


III) WHAT IS THE COSINE LAW

- o The Cosine Law is for solving triangles that are NOT R.T.
- o You could only use the Cosine Law when you have:
 - 2 sides and the angle in between
 - All 3 sides and need to find the angles

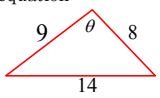


EX: FIND THE VALUE OF THE MISSING SIDE "X"

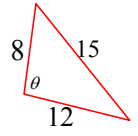


IV) FINDING ANGLES WITH THE COSINE LAW

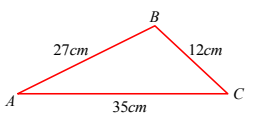
- When finding angles, isolate the cosine function first
- Then use inverse cosine to find the angle
- The side opposite of the angle must be on the left of the equation



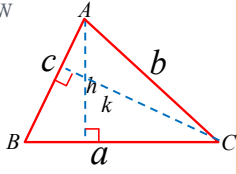
Practice: Find the missing angle θ



Practice: FIND THE AREA OF THE TRIANGLE



PROOF FOR THE SINE LAW



PROOF FOR THE COSINE LAW

