Recall:

angle of elevation

HORIZONTAL EYELINE

angle of depression

Ex 1) From a point on the ground 30 m from the foot of the Peace Tower, the angle of elevation to the top of the tower is 72°. Find the height of the tower to the nearest meter.

Ex 2) The tow rope pulling a para-sailor is 90 m long. A crew member on the boat estimates that the angle between the tow rope and the horizontal is 40°. Find the height of the para-sailor to the nearest meter.

Ex 3) A lighthouse sits at the top of a sheer cliff. The top of the lighthouse is 33 m above the sea. The angle of depression to sight a small fishing boat at sea is 24°. How far from the base of the cliff is the fishing boat (to the nearest meter)?
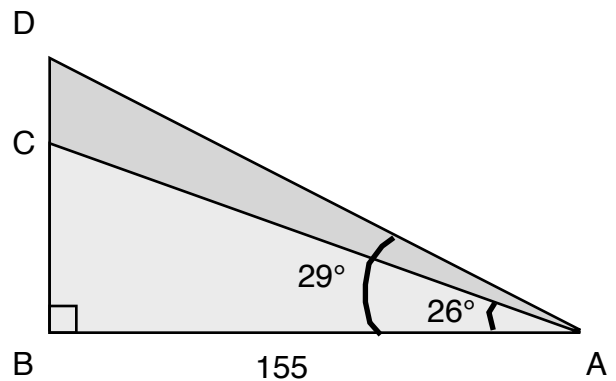
Unit 3: TRIGONOMETRY
Day 2: Problem Solving with Two Triangles

This involves solving one triangle in order to help us find what we are looking for in the second triangle.

Ex 1) Find DC.

STEPS:
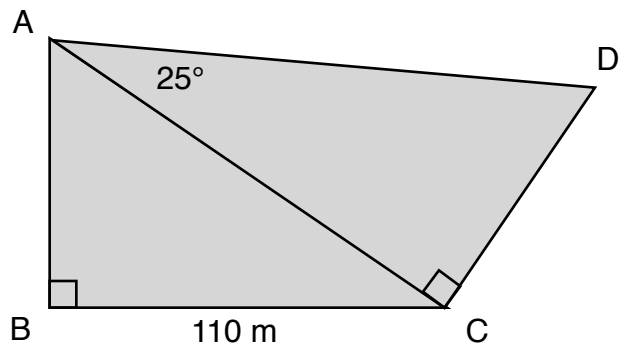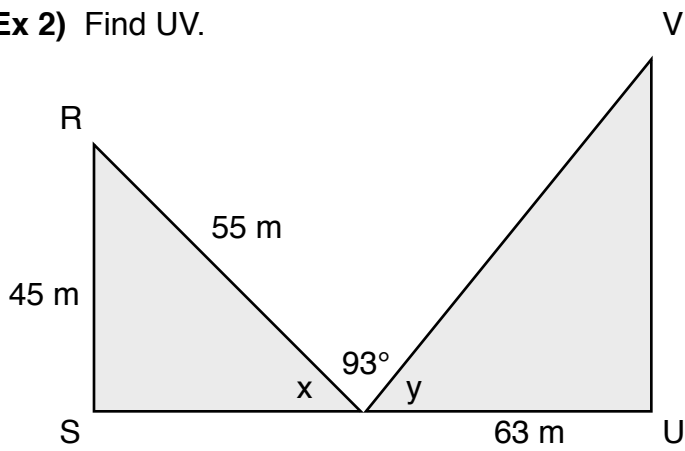**1.** Mentally map out what must be done and trig. function used.

D

C

29°

26°

B   155   A

2. Solve one triangle.

3. Solve 2nd triangle.

4. Therefore statement.

Ex 2) Find AD.

A

25°

D

B

110 m

C
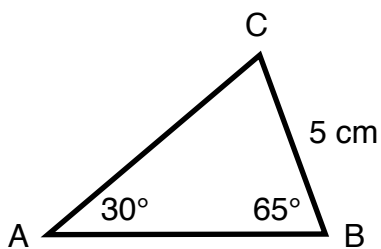
Ex 2) Find UV.

R

V

55 m

45 m

93°

x

y

S

63 m

U

Unit 3: TRIGONOMETRY
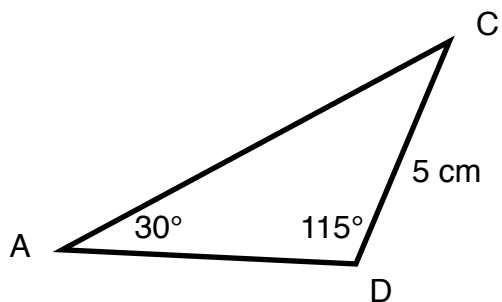Day 3: Solving Triangles that are NOT Right-Angled

You can solve **any** triangle if you know:

- The lengths of two sides, or
- The length of one side and the measure of one acute angle

Ex. 1) In △ABC, calculate the length of AC to the nearest tenth of a centimeter.

C

5 cm

30°   65°

A   B

Ex. 2) In △ADC, calculate the length of AC to the nearest tenth of a centimeter.

C

5 cm

30°   115°

A

D

Ex. 3) In △ABC, calculate the length of CB to the nearest tenth of a centimeter.

C

5 cm

70°

A

8 cm   B