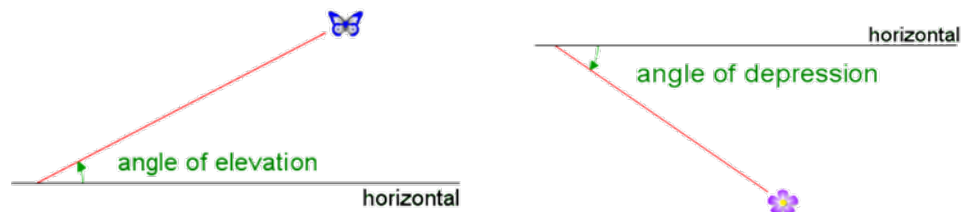


## 14.5 Applications of Right Triangle Trigonometry (review)

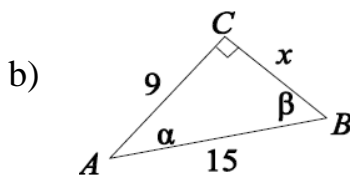
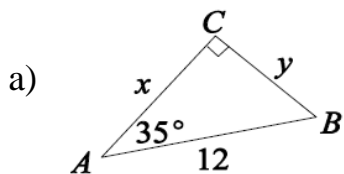
Things to Remember:

- set your calculator in “**degree**” mode;
- use at least 4 decimals when recording the trig functions values; ex.  $\sin 32^\circ 10' =$
- use the inverse (**shift** or **2<sup>nd</sup>**) function when finding **angles**; round angles to one decimal; ex. if  $\cos \theta = -.35078$ , then  $\theta =$
- apply **Pythagorean Theorem** only when working with a **right angle triangle**;
- use **exact answers** when working with **special angles**;
- an angle of **elevation** or **depression** always starts from a horizontal line:

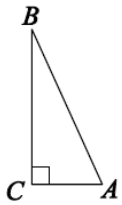


- the **opposite side** carries the same name as the **vertex** (vertex – capital letter; side – small letter);
- the side opposite to the **smallest angle** is the **shortest**; the side opposite to the **largest angle** is the **longest**;
- to **solve a triangle** means to find all the missing angles and sides.

Example 1: Solve the given triangle.



c)  $\angle B = 11.4^\circ$ ,  $b = 6 \text{ cm}$



*Example 2:*

From the top of a lighthouse 41.15 m high, the angle of depression to a boat is  $3.28^\circ$ . How far is the boat from the base of the lighthouse?



*Example 3:*

A jet climbs at an angle of  $15^\circ$  at 362 km/hr. How long will it take (to the nearest minute) to reach an altitude of 8 km?

*Example 4:*

The angle of elevation of the top of a tower is  $30^\circ$ . Another reading taken 100 m closer to the tower is  $60^\circ$ . How tall is the tower?