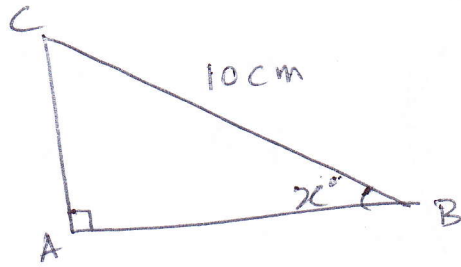


Q1

In a right triangle

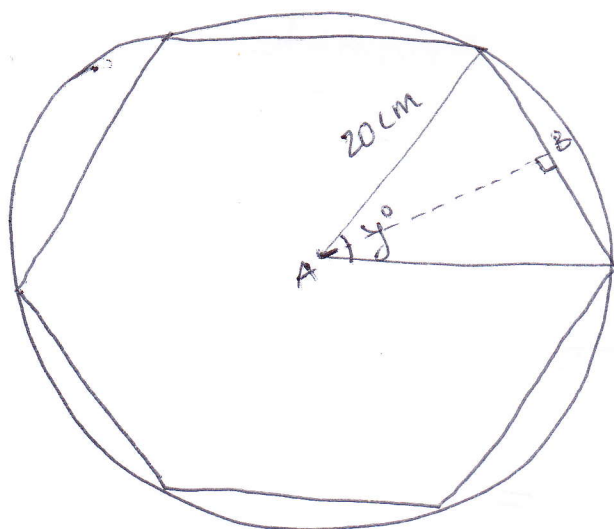


$$2 \sin x - \cos x = 1$$

$$\sin x + \cos x = 1.4$$

Find the length of line segment $\overline{AC}$

Q2



Find the length of line segment $\overline{AB}$
(Hint use trigonometric tables).

Q3
(a) A girl can put a basketball into the hoop with probability 15%. If she takes 57 shots, what is the expected number of baskets she would get?

(b) If 20% of students in a class eat burgers and 30% of the class is Asian, and 50% of the class is girls, how many
(i) Asian burger eaters are in a class of 50 students

(ii) girl, burger eaters are asian in a class of 50 students?

Q4 Solve the following for values of x and y .

$$10x - 2y = 100$$

$$4x = 10 - y$$

Q5 A small boy David's likelihood of falling down while walking is 25% for each step he takes. A small girl Loyola's likelihood of falling down while walking is 20% for each step she takes.

~~How many times is~~

Some kid fell down after taking 3 steps. (we don't know whether it was David or Loyola).
(on the 4th step).

Q(a) What is the probability that it was David who fell down in the 4th step.

Q(b) What is the probability that it was Loyola who fell down in the 4th step?