

WANDOOR GANITHAM - S S L C UNIT TEST 2021

11.5AE

TRIGNOMETRY

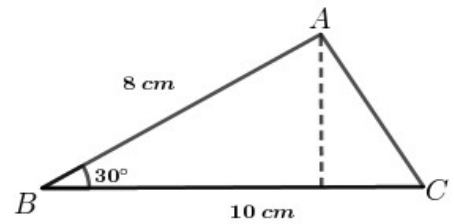
Total Score : 25

Time : 45minutes

(2 scores each for questions 1 to 3)

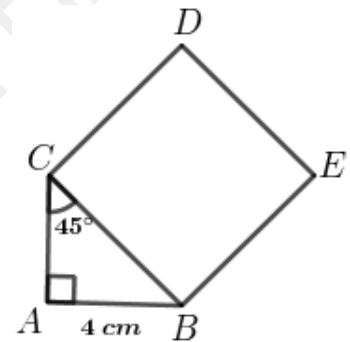
1. In the figure $\angle B = 30^\circ$, $AB = 8\text{ cm}$, $BC = 10\text{ cm}$

- a) What is the perpendicular distance from A to the side BC ?
- c) What is the area of the triangle ?



2. In the figure $\angle A = 90^\circ$, $\angle ACB = 45^\circ$, $AB = 4\text{ cm}$.

- a) What is the measure of $\angle ABC$?
- b) What is the perimeter of the square BCDE ?

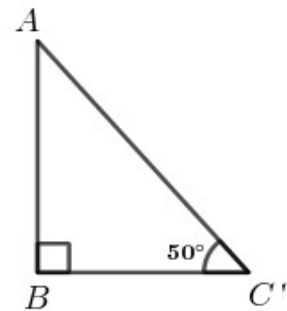


3. In triangle ABC , $\angle B = 90^\circ$, $\angle C = 50^\circ$.

- a) Which among the following is $\tan 50^\circ$?

$$\left(\frac{AB}{AC} , \frac{BC}{AC} , \frac{BC}{AB} , \frac{AB}{BC} \right)$$

- b) Prove that $\tan 50^\circ \times \tan 40^\circ = 1$?

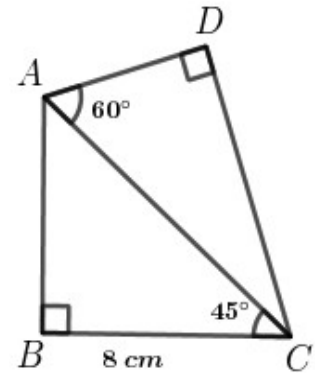


(3 scores each for questions 4 to 5)

4. When sun is an elevation of 60° , the length of the shadow of a tree is 15 meters.

- a) Draw a rough figure based on the given details ?
- b) What is the height of the tree ?
- c) What will be the length of the shadow if sun is an elevation of 30° ?

5. In the figure $BC = 8\text{ cm}$, $\angle B = \angle D = 90^\circ$, $\angle ACB = 45^\circ$, $\angle CAD = 60^\circ$



- What is the measure of $\angle BAC$?
- What is the length of AC ?
- What is the perimeter of quadrilateral $ABCD$?

(4 scores each for questions 6 to 7)

6) Two children stand on either side of a tower of height 90 meters . First child sees the top of the tower at an elevation of 30° and the second child sees it at an elevation of 60°

- Draw a rough figure based on the given details?
- What is the distance between the tower and the first child ?
- What is the distance between the children ?

7. A man standing on the bottom of a hill sees the top of a mountain at an elevation of 60° and sees it from the top of the hill at an elevation of 45° .The mountain is 300 metres away from the hill/ .

- Draw a rough figure based on the given details ?
- What is the height of the mountain ?
- What is the height of the hill ?

(Question 8 carries 5 scores)

8) A man standing on the top of a building sees the top of a tower at an elevation of 45° and its base at a depression of 30° . The height of the building is 40 metres.

- Draw a rough figure based on the given details ?
- What is the distance between the building and the tower ?
- What is the height of the tower ?
- What is the ratio of the sides of of a triangle having angles 45° , 60° and 75° ?