A

SAMAGRA SHIKSHA KERALA
SECOND TERM EVALUATION 2023-24

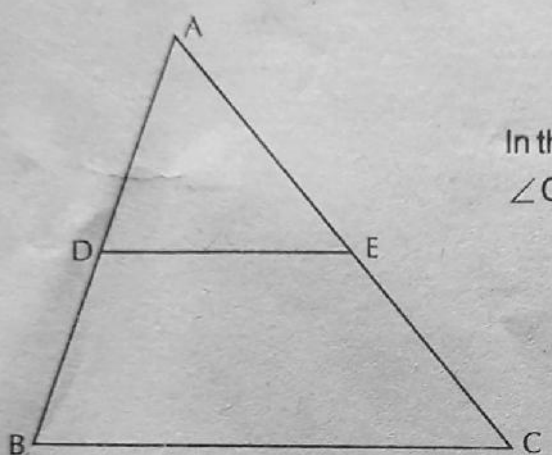
E-703

MATHEMATICS

Standard: VII **Time: 2 Hrs**

- 15 minutes is given as cool-off time.
- Read the questions carefully during this time.
- Answer any **SIX** from the given **EIGHT** activities.

Activity 1

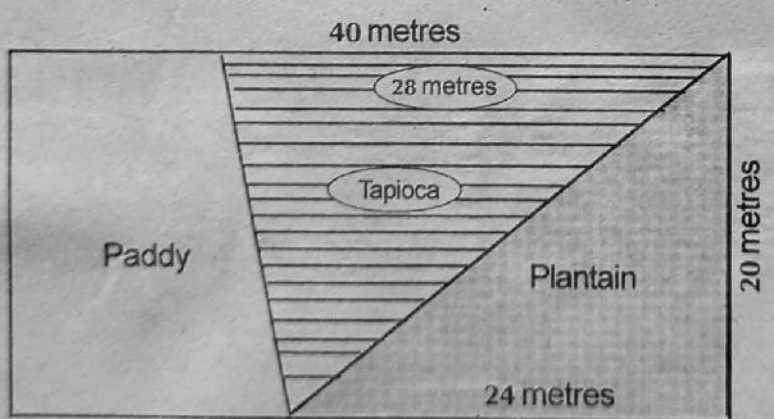


In the figure, lines BC, DE are parallel. $\angle BDE = 110°$, $\angle CED = 130°$.

A) Find the measurements of $\angle ABC$ and $\angle ACB$.

B) Write the measurements of all angles in triangle ADE.

Activity 2



A rectangular field is 40 metres long and 20 metres wide. Paddy, plantain and tapioca are cultivated in three parts as shown in the figure.

A) What is the area of plantain cultivation?

B) Find out the area where tapioca is cultivated?

C) What is the area of the part where paddy is cultivated?

Activity 3

A) How many kilometres per minute will a train travel at a speed of 90 km/hour?

B) How many meters will this train travel in one second?

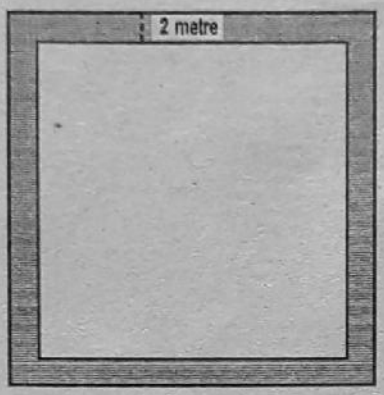
C) How much time will a train of 175 metres long take to pass an electric post at a speed of 90 km/hour?

Activity 4

The area of a square garden is 1024 square centimetres.

A) What is the length of one side?

B) There is a 2 metre wide path around the garden. What is the area of the path?



Activity 5

A) Which of the following cannot be written as a power of $\frac{1}{2}$?

$\left[\frac{1}{4}, \quad \frac{1}{6}, \quad \frac{1}{8}, \quad \frac{1}{16}\right]$

B) Which of the following is not a perfect square?

[400, 1600, 4000, 40000]

C) Which is not equal to 256?

$[2^8, \quad 4^4, \quad 16^2, \quad 8^3]$

D) Which is equal to 2^{10}?

$[2^5 \times 2^2, \quad 2^9 + 2^1, \quad 2^5 \times 2^5, \quad 2^{10} \times 2^1]$

E) Find $25^2 \times 4^2$.

Activity 6

The distance from Aluva to Thiruvananthapuram is 240 kilometres. Ammu travelled from Aluva to Thiruvananthapuram at an average speed of 40 km/hour by train.

A) Find the time taken for the journey.

B) Ammu went back by a Superfast Train. She reached Aluva in four hours. What is the average speed of the train?

C) What is the average speed of the entire journey?

Activity 7

A) In triangle LMN, LM=6 centimetres, MN =7 centimetres, $\angle M = 70°$. Draw the triangle.

B) Which of the lengths cannot be the side of a triangle?

a. 2 centimetres, 8 centimetres, 8 centimetres

b. 2 centimetres, 2 centimetres, 3 centimetres

c. 3 centimetres, 4 centimetres, 5 centimetres

d. 1 centimetre, 2 centimetres, 3 centimetres

Activity 8

A) A large bucket is filled when 7 cups of water is poured into it. The same cup is used and poured 5 times to fill a small bucket. What is the ratio of the volumes of the large and small buckets?

B) $1\frac{1}{4}$ glasses of water is needed to fill a cup. $2\frac{1}{2}$ glasses of water is needed to fill a bottle? What is the ratio of the volumes of the cup and the bottle?

C) The volume of a bottle is 500 millilitres. The water in the bottle is poured into two small bottles in the ratio 3:7. How much water will be there in each small bottle?