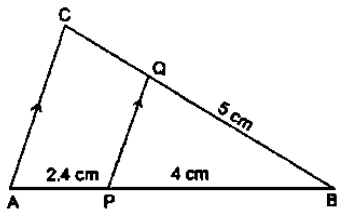
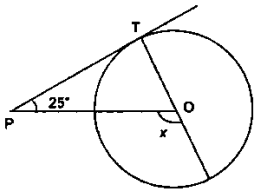
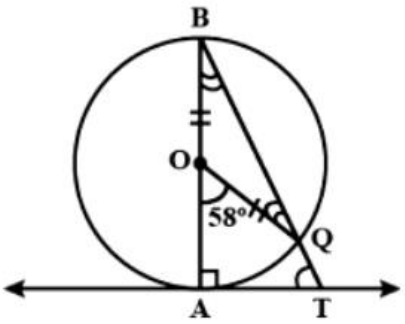
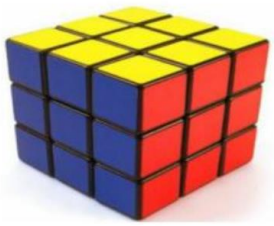
THE VILLAGE INTERNATIONAL SCHOOL
"We Nurture Dreams"

Date:06/11/24 **GRADE: X**	**MT - 03 (2024-25)** **MATHEMATICS**	**Max marks: 20** **Time: 50 Minutes**

General Instructions:
1 All questions are compulsory.
2. Marks are indicated against each question.

Qn. No	QUESTIONS 1 TO 5 CARRY ONE MARK EACH	Marks allocated
1	In the given figure, PQ//AC. If BP = 4cm, AP = 2.4 cm and BQ = 5cm, then length of BC is a. 8 cm b. 3 cm c. 0.3 cm d. $\frac{25}{3}$ 	1
2	In the given figure, if PT is a tangent of the circle with center O and $\angle TPO=25^0$ then the measure of x is: a. 25^0 b. 65^0 c. 90^0 d. 115^0 	1
3	The area of a semi – circle of diameter 'd' ? a. $\frac{1}{16}$ Π d^2 b. $\frac{1}{4}$ Π d^2 c. $\frac{1}{8}$ Π d^2 d. $\frac{1}{2}$ Π d^2	1
4.	The radius of a sphere whose volume is 12 Π cm^3, is a. 3 b. $3\sqrt{3}$ c. $3^{2/3}$ d. $3^{1/3}$	1

5	Assertion (A): In a circle of radius 6 cm, the angle of a sector is 60°. Then the area of the sector is 132/7 cm^2. Reason (R): Area of the circle with radius r is πr^2. (a) Both the statements – A and R are true, and R is the right explanation for A (b) Both the statements – A and R are true; R is not the correct explanation for A (c) A is true, but R is false (d) R is true, but A is false	1
	QUESTIONS 6 AND 7 CARRY TWO MARKS EACH	
6	A piece of wire 22 cm long is bent into the form of an arc of a circle subtending an angle of 60^0 at its centre. Find the radius of the circle.	2
7	In given figure, AB is the diameter of a circle with center O and, AT is a tangent. If ∠AOQ = 58° find ∠ATQ  	2
	QUESTIONS 8 AND 9 CARRY THREE MARKS EACH	
8	State and prove Basic Proportionality theorem	3
9	Find the area of the minor segment of a circle of radius 12 cm, when its central angle is 60^0.Also find the area of the corresponding major segment. (Use π = 3.14 and √3 = 1.73)	3
10	Case Study: On a Sunday, your Parents took you to a fair. You could see lot of toys displayed, and you wanted them to buy a RUBIK's cube and strawberry ice-cream for you. Observe the figures and answer the questions:- 	

1. The length of the diagonal if each edge measures 6cm is

a) $3\sqrt{3}$

b) $3\sqrt{6}$

c) $\sqrt{12}$

d) $6\sqrt{3}$

2. Volume of the solid figure if the length of the edge is 7cm is

a)256 cm^3

b) 196 cm^3

c) 343 cm^3

d) 434 cm^3

3. What is the curved surface area of hemisphere (ice cream) if the base radius is 7cm?

a) 309 cm^2

b) 308 cm^2

c) 803 cm^2

d) 903 cm^2

4. Slant height of a cone if the radius is 7cm and the height is 24 cm___

a) 26cm

b) 25 cm

c) 52 cm

d) 62cm

5. The total surface area of cone with hemispherical ice cream is

a) 858 cm^2

b) 885 cm^2

c) 588 cm^2

d) 855 cm^2