BOMBAY SCOTTISH SCHOOL, MAHIM

1st TERM ASSESSMENT
MATHEMATICS

GRADE: 8
Date: 21st October, 2020
Duration : 1 hour 30 minutes

Max. Marks: 40
No. of Sections: 2
Session :1

Please note: Some questions may have multiple correct options. The students are required to choose all the correct options for a given question.

* Required

1. Email address *

2. FULL NAME *

3. ROLL NO. *

4. SECTION *

Mark only one oval.

- A
- B
- C
- D
- E
- F

SECTION A: Choose the correct options for the following questions.

5. Question *

1 point

$$Solve\ :\ \frac{3}{x+8} = \frac{4}{6-x}$$

Mark only one oval.

$x = 2$

Option 1

$x = -2$

Option 2

$x = -14$

Option 3

$x = 14$

Option 4

6. Question * 2 points

Each interior angle of a regular polygon is double of its exterior angle. Identify the polygon.

Mark only one oval.

Octagon

Option 1

Dodecagon

Option 2

Hexagon

Option 3

Heptagon

Option 4

7. Question *

2 points

$$Simplify\ 15a - 12a \div 4 + 6a \times 2 - 6a \div \frac{1}{2}\ of\ 4$$

Mark only one oval.

$21\,a$

Option 1

$3\,a$

Option 2

$\frac{39a}{4}$

Option 3

$\frac{37a}{4}$

Option 4

8. Question * 2 points

Rahul was given an increment of 10% on his salary. His new salary is Rs. 35750. What was his salary before the increment?

Mark only one oval.

Rs. 32,000	*Rs.* 32,500
Option 1	Option 2
Rs. 30,500	*Rs.* 31,500
Option 3	Option 4

9. Question *

2 points

Find the square of $(\sqrt{2} + x)$

Mark only one oval.

$2 + 2\sqrt{2}x + x^2$

Option 1

$4 + x^2$

Option 2

$\sqrt{2} + x^2$

Option 3

$2 + \sqrt{2}x + x^2$

Option 4

10. Question *

2 points

$$Simplify \quad \frac{x^{2n+3} \cdot \left(x^2\right)^{n-1}}{x^{3n-5}}$$

Mark only one oval.

x^{7n-3}

Option 1

x^{n-7}

Option 2

x^{n+6}

Option 3

x^{-3n+6}

Option 4

11. Question *

2 points

The area of a parallelogram is 98 cm^2. If one altitude is half the corresponding base, find the base and altitude of the parallelogram.

Mark only one oval per row.

	7	14	6	12
Base	◯	◯	◯	◯
Altitude	◯	◯	◯	◯

12. Question * 2 points

The sum of two numbers is 4 and their product is 3. Find the sum of their cubes.

Mark only one oval.

28

Option 1

18

Option 2

100

Option 3

38

Option 4

13. Question * 2 points

Two parallel sides of a trapezium are in the ratio 7 : 11 and the distance between them is 17cm. If the area of the trapezium is 306 cm^2, find the length of the parallel sides

Mark only one oval.

12 *cm and* 22 *cm*	10 *cm and* 20 *cm*
Option 1	Option 2
14 *cm and* 22 *cm*	14 *cm and* 24 *cm*
Option 3	Option 4

14. Question * 2 points

Fifteen girls went shopping. 10 girls bought bangles and 8 girls bought ribbons. If one girl did not buy anything, find the number of girls who bought (i) both items (ii) only bangles.

Mark only one oval per row.

	4	8	6
Both items	◯	◯	◯
Only bangles	◯	◯	◯

15. Question. Solve for 'x' * 1 point

$$\left(\sqrt[3]{4}\right)^{2x+\frac{1}{2}} = \frac{1}{32}$$

Mark only one oval.

◯ Option 1: -4

◯ Option 2: 4

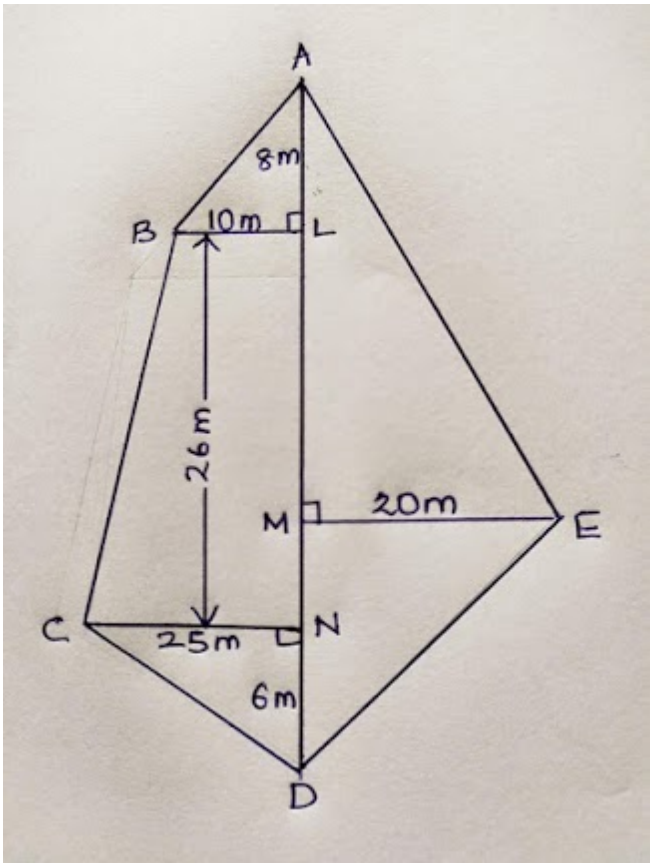
◯ Option 3: -1

◯ Option 4: -3

SECTION B

Solve the following questions on a separate sheet of paper. All essential steps of working to be shown. Draw figures wherever required. Upload the solution sheet in PDF format, at the end of this section.

16. Question 1. Find the area of the given figure. (Not drawn to scale). * 3 points



Mark only one oval.

$970\ m^2$

Option 1

$840\ m^2$

Option 2

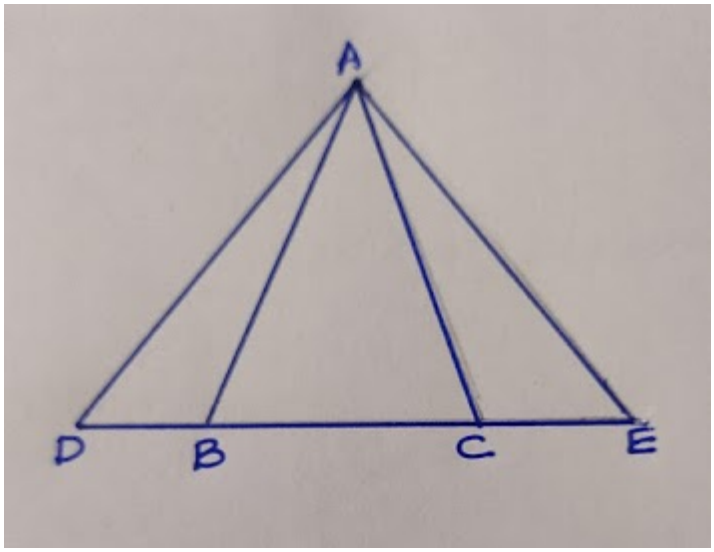
$940\ m^2$

Option 3

$700\ m^2$

Option 4

17. Question 2. ABC is an isosceles triangle in which AB=AC. The base BC is produced on both sides and D and E are points such that DB = CE. Prove that AD = AE. * 3 points



Mark only one oval.

Mark as done

18. Question 3. * 3 points

The area of a rhombus is equal to the area of a triangle whose base and corresponding altitude are 24.8 cm and 16.5 cm respectively. If one of the diagonals of the rhombus is 22 cm, find the length of the other diagonal.

Mark only one oval.

18.6 *cm*

Option 1

17.4 *cm*

Option 2

17.8 *cm*

Option 3

12 *cm*

Option 4

19. Question 4. * 3 points

$Find\ \sqrt{14}\ correct\ to\ 3\ significant\ figures.$

Mark only one oval.

3.75

Option 1

4.00

Option 2

3.74

Option 3

3.70

Option 4

20. Question 5. * 4 points

$If\ x + y + z = 12\ and\ x^2 + y^2 + z^2 = 44,\ find\ xy + yz + xz.$

Mark only one oval.

$\frac{72}{23}$

Option 1

50

Option 2

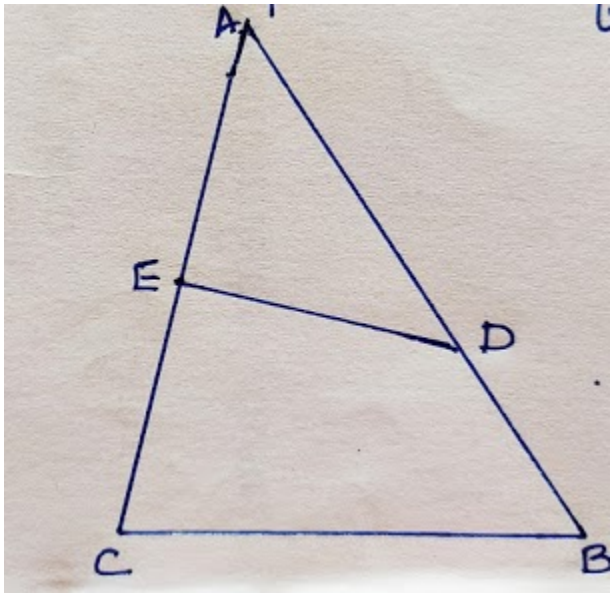
$\frac{72}{21}$

Option 3

$\frac{6}{11}$

Option 4

21. Question 6. In triangle ABC, the perpendicular bisector of AC meets AB at D. Prove that AB = BD +DC * 4 points



Mark only one oval.

Mark as done

22. Recheck your paper once more. Clear pictures of the working sheet of Section B to be uploaded as PDF ONLY. *

Files submitted: