| $+-$ 0 Department of Mathematics $\qquad$ Mathematics$\qquad$ |  |  | INDIAN SCHOOL AL WADI AL KABIR <br> Class VIII, Mathematics Worksheet- MENSURATION 10-1-2021 |  |  |  |  |  |
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| OBJECTIVE TYPE (1 Mark) |  |  |  |  |  |  |  |  |
| Q.1. | The area of the trapezium is |  |  |  |  |  |  |  |
|  | A | $6 \mathrm{~cm}^{2}$ | B | $4 \mathrm{~cm}^{2}$ | C | $3 \mathrm{~cm}^{2}$ | D | $9 \mathrm{~cm}^{2}$ |
| Q.2. | The area of a rhombus is $60 \mathrm{~cm}^{2}$. One diagonal is 10 cm . The other diagonal is |  |  |  |  |  |  |  |
|  | A | 6 cm | B | 12 cm | C | 3 cm | D | 24 cm |
| Q.3. | The volume of a room is $80 \mathrm{~m}^{3}$. The area of the floor is $20 \mathrm{~m}^{2}$. The height of the room is |  |  |  |  |  |  |  |
|  | A | 1 m | B | 2 m | C | 3 m | D | 4 m |
| Q.4. | The area of the quadrilateral is |  |  |  |  |  |  |  |
|  | A | $6 \mathrm{~cm}^{2}$ | B | $12 \mathrm{~cm}^{2}$ | C | $3 \mathrm{~cm}^{2}$ | D | $8 \mathrm{~cm}^{2}$ |
| Q.5. | The base radius and height of a right circular cylinder are 14 cm and 5 cm respectively. Its curved surface is |  |  |  |  |  |  |  |
|  | A | $220 \mathrm{~cm}^{2}$ | B | $440 \mathrm{~cm}^{2}$ | C | $1232 \mathrm{~cm}^{2}$ | D | $70 \mathrm{~cm}^{2}$ |

Q.6. If the volume of a cube is $64 \mathrm{~cm}^{3}$, its surface area is

|  | $\mathbf{A}$ | $16 \mathrm{~cm}^{2}$ | $\mathbf{B}$ | $64 \mathrm{~cm}^{2}$ | $\mathbf{C}$ | $96 \mathrm{~cm}^{2}$ | $\mathbf{D}$ | $128 \mathrm{~cm}^{2}$ |
| :---: | :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| Q.7. | The volume of a cuboid whose length, breadth and height are 2a, 3a and 4a is |  |  |  |  |  |  |  |
|  | $\mathbf{A}$ | $20 a^{3}$ | $\mathbf{B}$ | $9 a^{3}$ | $\mathbf{C}$ | $12 a^{3}$ | $\mathbf{D}$ | $24 a^{3}$ |

Q.8. The curved surface area of a right circular cylinder of radius $2 r$ and height $2 h$ is

|  | A | $2 \pi r h$ | $\mathbf{B}$ | $4 \pi r h$ | $\mathbf{C}$ | $8 \pi r h$ | $\mathbf{D}$ | $16 \pi r h$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Q.9. The perimeter of a trapezium is 52 cm and its each non-parallel side is equal to 10 cm with its height 8 cm . its area is

|  | $\mathbf{A}$ | $124 \mathrm{~cm}^{2}$ | $\mathbf{B}$ | $118 \mathrm{~cm}^{2}$ | $\mathbf{C}$ | $128 \mathrm{~cm}^{2}$ | $\mathbf{D}$ | $112 \mathrm{~cm}^{2}$ |
| :--- | :--- | :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| Q.10 |  |  |  |  |  |  |  |  | | If the lateral surface area of a cube is $324 \mathrm{~cm}^{2}$, then the total surface area if the cube |
| :--- |
| is |

## Fill in the blanks(1mark)

| Q11 | The volume of the cylinder whose height is 14 cm and diameter of base 4 cm is |
| :---: | :---: |
| Q12 | The total surface area of a cube is $486 \mathrm{~cm}^{2}$. Its edge will be____cm. |
| Q13 | The cost of digging a cuboidal pit 6 m long, 4 m broad and 3 m deep at the rate of ₹ 250 per $\mathrm{m}^{3}$ is $\qquad$ |
| Q14 | The area of a rhombus whose diagonals are 32 cm and 126 cm is___. |
| Q15 | The volume of a cube whose edge is 5 a is ___. |

## SECTION B (2 marks)

| Q16 | A milk tank is in the form of cylinder whose radius is 3 m and length is 14 m. Find the <br> quantity of milk in litres that can be stored in the tank? |
| :--- | :--- |
| Q17 | The dimensions of a cuboid are in the ratio of $5: 4: 2$ and its total surface area is <br> $1216 \mathrm{~cm}^{2}$. . Find the dimensions. |
| Q18 | A cuboid is of dimensions $72 \mathrm{~cm} \times 48 \mathrm{~cm} \times 30 \mathrm{~cm}$. how many small cubes of side 6 <br> cm can be placed in the given cuboid. |


| Q19 | The area of a trapezium is $384 \mathrm{~cm}^{2}$. Its parallel sides are in the ratio 3:5 and the distance between them is 12 cm . Find the length of each parallel side. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Q20 | The capacity of a cuboidal tank is 30,000 litres of water. Find the breadth of the tank, if its length and breadth are 4 m and 2.5 m . |  |  |  |  |  |  |  |
| SECTION C (4marks) |  |  |  |  |  |  |  |  |
| Q21 | A suitcase with measures $40 \mathrm{~cm} \times 24 \mathrm{~cm} \times 12 \mathrm{~cm}$ is to be covered with a tarpaulin cloth. How many meters of tarpaulin of width 48 cm is required to cover 100 such suitcases? |  |  |  |  |  |  |  |
| Q22 | Which has a greater volume and by how much: <br> A cuboid with length, breadth and height as $7 \mathrm{~m}, 14 \mathrm{~m}$ and 7 m . OR A cylinder with radius 7 m and height 14 m . |  |  |  |  |  |  |  |
| Q23 | The volume of a cylinder is $1540 \mathrm{~cm}^{3}$. If it is 10 cm long, find: <br> a) Radius of the base. <br> b) Curved surface area. <br> c) Total surface area. (take $\pi=\frac{22}{7}$ ) |  |  |  |  |  |  |  |
| Q24 | A road roller takes 1500 complete revolutions to move once over to level a road. Find the area of the road if the diameter of a road roller is 168 cm and length is 2 m . |  |  |  |  |  |  |  |
| Q25 | The walls and the ceiling of the walls are to be painted. The length, breadth and height of the room are $5 \mathrm{~m}, 4 \mathrm{~m}$ and 3 m respectively. <br> a) Find the cost of painting the four walls and ceiling at the rate of $₹ 200$ per $m^{2}$ ? <br> b) Find the cost of tiling the floor at the rate of $₹ 50$ per $m^{2}$ ? <br> c) Find the total amount to be paid after painting the walls and the ceiling, tiling the floor? |  |  |  |  |  |  |  |
| Answers |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \frac{n}{0} \\ & 3_{1}^{3} \\ & \frac{1}{4} \end{aligned}$ | 1 | A | 2 | B | 3. | D | 4 | A |
|  | 5 | B | 6 | C | 7 | D | 8 | C |
|  | 9 | C | 10 | $486 \mathrm{~cm}^{2}$ | 11 | $176 \mathrm{~cm}^{3}$ | 12 | 9 cm |
|  | 13 | ₹ 18,000 | 14 | $2016 \mathrm{~cm}^{2}$ | 15 | $125 a^{3}$ | 16 | 3,96,000 litres |
|  | 17 | Length $=20 \mathrm{~cm}$ | 18 | 480 | 19 | $24 \mathrm{~cm}, 40 \mathrm{~cm}$ | 20 | 3 m |


|  |  | Breadth=16cm <br> Height=8cm |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{2 1}$ | $\mathbf{7 2 m}$ | $\mathbf{2 2}$ | $686 \mathrm{~m}^{3}$, <br> $2156 \mathrm{~m}^{3}$, <br> Cylinder by <br> $1470 \mathrm{~m}^{3}$ | $\mathbf{2 3}$ | a) 7 cm <br> b) $440 \mathrm{~cm}^{2}$ <br> c) $748 \mathrm{~cm}^{2}$ | $\mathbf{2 4}$ | $15840 \mathrm{~m}^{2}$ |
| $\mathbf{2 5}$ | a) ₹14800 <br> b) ₹1000 <br> c) ₹15800 |  |  |  |  |  |  |

