INTERNATIONAL INDIAN SCHOOL DAMMAM

MATHS WORK SHEET 2016-2017 CLASS: VIII

CHAPTER VI: SQUARES & SQUARES ROOTS.

a. \( \sqrt{0.0001} + \sqrt{0.04} = \) ____________________

b. What will be the unit place digit of the square of a number ending in 9?

c. Number of the natural numbers between \( 10^2 \) and \( 11^2 \) is ________________

d. \( [\sqrt{81} + \sqrt{0.81} + \sqrt{0.0081}] \times \sqrt{10000} \)

e. The number of digits in the square root of a 7 digit number is ________________

f. What will be the unit place digit of the square root of a number ending in 6 is ______

g. A perfect square number can never have the digits _____, _____, _____ or _____ at the unit place.

h. The side of a square having area 144 cm\(^2\) is ____________________

i. The square root of 14641 will have a) 2 digits b) 3 digits c) 4 digits d) 5 digits.

2) Find the greatest 3 digits square number.

3) Is 90 a perfect square? If not find the least number by which 90 must be multiplied to get a perfect square. Find the square root of the new square number.

4) Find the smallest square number that is divisible by each of the numbers 7, 14 and 21.

5) Find the smallest number by which 720 must be divided to get a perfect square also find the square root of the perfect square so obtained.

6) 4096 students are arranged in an auditorium in such a manners that there as many soldiers in a row as there are rows in the auditorium. How many rows are there in the auditorium?

7) An army commander wishing to arrange his soldiers who are 4100 in numbers in the form of a square. How many soldiers would be left out in this arrangement?

6) 8649 students are sitting in a lecture room in such a manner that there are as many students in a row as there are rows in the lecture room. How many students are there in each row?

7) In a theater there are 6000 chairs, the manager wanted to arrange their chairs in such a manner, that the number of rows is equal to the number of columns. Find the minimum numbers of chairs needs more for this arrangement.
8) In a right angles ΔPQR, ∠Q = 90°. If PQ =9cm, QR =40cm find PR.

9) Find the square root of the following numbers by division method.

   a) 1225  b) 0.0324  c) 12.96  d) 7669.

10) Find the square root of the following numbers using prime factorization method.

    a) 2401  b) 1089.

11) Estimate the value of $\sqrt{97}$ to the nearest whole number.
1. The unit digit in the cube of 657 is ____________
   a) 4   b) 2   c) 8   d) 3

2. \(\sqrt[3]{0.512} = \) ___________
   a) 0.8   b) 0.08   c) 0.008   d) 8.8

3. Which is a perfect cube ____________
   a) 1250000   b) 125000   c) 12500   d) 1250

4. Volume of a cube with side 3m is ____________
   a) 9m\(^3\)   b) 27m\(^3\)   c) 6m\(^3\)   d) 81m\(^3\)

5. \(\sqrt[3]{343 \times 64} = \) ___________
   a) 14   b) 28   c) 56   d) 79

6. \(\frac{\sqrt[3]{729}}{\sqrt[3]{1000}} = \) ___________
   a) 7.29   b) 72.9   c) 0.9   d) 0.09

7. \(\sqrt[3]{\frac{64}{16}} = \) ___________
   a) \(\frac{4}{5}\)   b) \(\frac{5}{6}\)   c) \(\frac{3}{6}\)   d) \(1\frac{3}{4}\)

8. \(\sqrt[3]{3375} + \sqrt[3]{125} = \) ___________
   a) \(\sqrt[3]{3500}\)   b) 20   c) 25   d) 230
9. \( \sqrt{216000} = \ldots \)
   a) 30     b) 60     c) 600     d) 800

10. Number of digits in the cube root of 314432
   a) 3       b) 2       c) 4       d) 6

II. Answer the following

11. Check whether the following numbers are perfect cubes or not
   i) 3528 ii) 4096 iii) 9261 iv) 2000 v) 1728

12. Find the cube root of the following numbers by prime factorisation method.
   i) 15625    ii) 13824    iii) 35937 iv) 5832    v) 21952

13. Find the smallest number by which each of the following numbers must be multiplied to obtain a perfect cube. Also find the cube root of the new number
   i) 1372 ii) 6561    iii) 1568    iv) 5324    vi) 6125

14. Find the smallest number by which each of the following numbers must be divided to obtain a perfect cube. Also find the cube root of the new number
   i) 5632    ii) 7168 iii) 1600    iv) 4374    v) 131712

15. Find the cube root of the following numbers by estimation method.
   i) 19683    ii) 6859 iii) 148877 iv) 17576    v) 54872
   vi) 68921    vii) 74088    viii) 592704 ix) 614125    x) 512000

16. Ram makes a cuboid of plasticine of sides 7cm, 3cm, 7cm. How many such cuboids will he need to form a cube?

17. Volume of a cube is 3375 m\(^3\). Find the side of the cube.

18. Meera makes a cuboid of plasticine of sides 12cm, 8cm, and 6cm. How many such cuboids will he need to form a cube?
1. The minimum interior angle possible for a regular polygon is ______________.
2. Maximum exterior angle possible for a regular polygon is ______________.
3. If the diagonals of a quadrilateral bisect each other at right angles then the quadrilaterals must be a ______________.
4. In a quadrilateral ABCD, AB = 4cm, BC = 6cm, AD = 4cm and CD = 6cm. Is it a trapezium or kite?
5. How many diagonals does each of the following have?
   i) A convex quadrilateral  ii) A hexagon  iii) A regular pentagon  iv) A triangle
6. Find the number of sides of a regular polygon if the measure of each of its interior angle is
   i) 90°  ii) 120°  iii) 150°  iv) 144°
7. In the following figure ABCD is a parallelogram, find x and y.

8. One of the angles of the parallelogram measures 140°. Find all the other angles of it.
9. In each of the following parallelograms find the measure of x, y, z.
10. Two adjacent angles of a parallelogram are in the ratio 4:5. Find the measure of each of its angles.

11. If the perimeter of a rhombus is 64 cm then find the length of all its sides.

12. If the perimeter of a rectangle is 70 cm and one of its sides is 15 cm long, then find the length of its other sides.

13. Find the length of the diagonal of the rectangle whose sides are 12 cm and 5 cm.

14. In the figure $RING$ is a parallelogram, if $\angle R = 70^\circ$, find all other angles.

15. In the given figure $PQRS$ is a rectangle. Its diagonals meet at $O$. Find $x$, if $OS = 5x + 2$ and $OP = 4x + 5$. 

(6)
1. Construct a quadrilateral KLMN, given that KL = 8 cm, LM = 5.6 cm, MN = 4.4 cm, KN = 3 cm and KM = 6 cm.
2. Construct a quadrilateral ABCD, AB = 5.5 cm, BC = 4 cm, CD = 6 cm, \( \angle A = 60^\circ \) and \( \angle B = 120^\circ \)
3. Construct a rhombus ABCD given that AC = 7 cm, BD = 8 cm
4. Construct a parallelogram PQRS, PQ = 5.5 cm, QR = 4.5 cm and diagonal PR = 7 cm
5. Construct a quadrilateral ABCD, in which AB = 4.2 cm, BC = 5 cm, CD = 4.8 cm \( \angle B = 80^\circ \) and \( \angle C = 110^\circ \)
6. Construct the following quadrilaterals
   (i) Rhombus MORE, MO = 5.5 cm, EO = 7 cm
   (ii) Square OKAY with OK = 4.6 cm
   (iii) A rectangle with adjacent sides of lengths 6 cm and 4 cm.
   (iv) A quadrilateral DEAR, DE = 6 cm, EA = 4.8 cm, \( \angle D = 60^\circ \), \( \angle A = 105^\circ \) and \( \angle R = 110^\circ \)
7. Construct a quadrilateral PQRS in which PQ = 6 cm, QR = 5.5 cm \( \angle P = 55^\circ \), \( \angle Q = 100^\circ \) and \( \angle S = 90^\circ \)
8. Construct a quadrilateral ABCD such that AB = 5 cm, BC = 3 cm, CD = 10 cm, DA = 6 cm \( \angle D = 45^\circ \)
9. Construct a quadrilateral PQRS in which
   (a) PQ = 2 cm, QR = 3.6 cm, PS = 3.2 cm \( \angle P = 90^\circ \) and \( \angle Q = 120^\circ \)
   (b) PQ = QR = RS = 5 cm and \( \angle Q = \angle R = 90^\circ \)
10. Construct a quadrilateral PQRS in which PQ = 4.5 cm, QR = 3.9 cm, RS = 4.6 cm, SP = 3 cm and \( \angle Q = 75^\circ \)
11. Construct a trapezium PQRS in which PQ \parallel RS, PS = QR = 3.2 cm, PQ = 6.4 cm, RS = 9.6 cm and \( \angle S = 60^\circ \). Measure \( \angle P \) and \( \angle Q \).
12. Construct a quadrilateral QUAD given QU = 3.5 cm, UA = 5 cm, \( \angle Q = 100^\circ \), \( \angle U = 70^\circ \) and \( \angle D = 130^\circ \).
13. Construct a quadrilateral ABCD, given that AD = 5 cm, CD = 7 cm \( \angle A = 125^\circ \), \( \angle B = 105^\circ \) and \( \angle C = 100^\circ \).
14. Construct a parallelogram ABCD, AB = 6 cm, BC = 5 cm and \( \angle A = 60^\circ \).
15. Construct a quadrilateral EFGH, EF = 7 cm, EH = 6 cm, EG = 7.5 cm, FH = 7.5 cm and FG = 3.5 cm.

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INTERNATIONAL INDIAN SCHOOL DAMMAM
MATHEMATICS WORKSHEET CLASS VIII (2016-17)
COMPARING QUANTITIES

1. Find the ratio of speed of a plane 800 km per hour to the speed of a train 120 km per hour.
2. Convert 4:5 to percentage.
3. If 60% of people in a colony like cricket, 30% like football and remaining 200 people like badminton then find how many people like cricket?
4. Ram went to school for 216 days in a full year. If his attendance in 60%, find the number of days on which the school was opened.
5. A cricket team (IPL) won 12 matches from the total they played. This was 60% of the total. How many matches were played in all?
6. The size of a bag that could hold 5kg. of Sugar has been now been increased so that it can hold 6kg. What in the percentage increase in size?
7. The excise duty a certain item has been reduced to ₹ 580 from ₹ 870. Find the percentage reduction in the excise duty for that item.
8. The salary of a bank clerk was increased by 7%. If his present salary in ₹ 8025. What was it before increment?
9. Complete the table

<table>
<thead>
<tr>
<th>NO.</th>
<th>C.P.</th>
<th>PROFIT</th>
<th>PROFIT %</th>
<th>LOSS</th>
<th>LOSS %</th>
<th>S.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>₹75</td>
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<tr>
<td>2</td>
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<td></td>
<td></td>
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<td>₹1000</td>
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</table>

10. Find SP if,
    i) MP = ₹1600 and Discount = 10%
    ii) MP = ₹7500 and Discount = 5%
11. Find MP if
    i) SP = ₹4500 and Discount = 5%
    ii) SP = ₹6500 and Discount = 10%
12. Mary bought two tables for ₹3605. She sold one at a profit of 15% and the other at a loss of 9%. If Mary obtained the same amount for each fan, find the cost price of each fan.
13. The marked price of a shirt in ₹1250 and the shopkeeper allows a discount of 6% on it. Find the selling price of a shirt.
14. A cloth merchant sells 25m of cloth at ₹43 per meter gaining then by 25%. What did he pay for the purchase of the cloth?
15. Aman bought a watch for ₹374.50 which includes 7% VAT. Find the list price.
16. A shopkeeper increase the price of his goods by 10% and then allows a discount of 15%. How much has the customer to pay, if the item was initially priced ₹8200.
17. A shopkeeper sells a geyser at a gain of 8%. He had sold it for ₹285 less, he would have lost 2%. Find the CP of the geyser.
18. The marked price of a baby script in ₹500 and the selling price is ₹450. Find the discount percent.
19. Find the amount of ₹2400 after 3 years. When the interest in compounded annually at the rate of 20% per annum.
20. Raman lends ₹16000 to Rasheed at the rate of 12½ % per annum. Compound interest find the amount payable by Rasheed to Raman after 3 years.
21. Find the amount and the compound interest on ₹10,000 for 1½ years at 10% per annum compounded half yearly. Would this interest be more then the interest he would get if it was compounded annually.
22. A scooter was bought at ₹42000. Its value depreciated at the rate of 8% per annum. Find its value after one year.
23. The population of a city was 20000 in the year 2000. It increased at the rate of 5 % per annum. Find the population at the end of year 2003.