I. CHOOSE THE CORRECT ANSWER :

1 Square of an odd number is :

a) an odd number b) an even number c) either an odd number or an even number d) none of these

2. Which of the following is not a perfect square :

a) 441 b) 324 c) 253 d) 625

3 A Pythagorean triplet whose one number is 8 is

a) (8, 9,10) b) (8,15,17) c) (4,8,10) d) (4,15,17)

4. The number of digits in the square root of 33856 is

a) 5 b) 4 c) 3 d) 2

5. How many non perfect square numbers lie between the squares of 15 and 16 ?

a) 31 b) 32 c) 30 d) 35

6. Find the least number by which 500 must be multiplied to make it a perfect square

a) 2 b) 3 c) 4 d) 5

7. The square root of 1.44 is ———

a) 1.22 b) 12.2 c) 1.2 d) 1.12

8. Area of a square plot is 729 m2

.The side of the square is :

a) 33m b) 37m c) 27m d) 23m

9. The number of zeros in the square of 400 will be ————

a) 2 b 1 c) 3 d) 4

10. Sum of the first n odd natural numbers is —————

a) 2n +1 b n2 c) n2 - 1 d) 2n2 + 1

II. SOLVE THE FOLLOWING :

1 Find the square of the following numbers without actual multiplication:

a) 19 b) 23 c) 45 d) 52

2. Find the square root of the following numbers by prime factorization method :

a) 4225 b) 4489 c) 8281 d) 5625 e) 1296 f) 11664

3. Find the square root of the following numbers by division method:

a) 1849 b) 6561 c) 8649 d) 84100 e) 54756 f) 12996

4. Find the square root of the following decimal numbers :

a) 16.81 b) 151.29 c) 53.59 d) 156.25 e) 104.04 f) 92.16

5. Find the least perfect square number which is divisible by each of the numbers 4 , 5 and 10 .

6. Find the least perfect square number which is divisible by each of the numbers 8 ,12 ,15 and 20.

7. The sides of a rectangular field are 80m and 18m respectively. Find the length of the diagonal.

8. Find the smallest number by which 2475 must be multiplied to make it a perfect square.

9. Find the smallest number by which 9408 must be divided so that the quotient is a perfect square. Find the square root of the quotient?

10. Find the smallest number by which 1250 must be multiplied to make it a perfect square. Also find the square root of the number so obtained.

11. Is 2352 a perfect square?If not, find the smallest number by which 2352 must be multiplied so that the product is a perfect square .Find the square root of the quotient.

12. Find the least number which must be subtracted from 984 to make it a perfect square.

13. Find the least number which must be subtracted from 7230 to make it a perfect square. Find the square root of the number so obtained.

14. Find the least number of four digit which is a perfect square.

15. Find the least number which must be added to 9213 to make it a perfect square. Find the square root of the number so obtained.

16. Find the greatest number of five digit , which is a perfect square.

17. The students of a class arranged a picnic. Each student contributed as many rupees as the number of students in the class. If the total contribution is Rs.1156 , find the strength of the class..

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18. 8649 students are sitting in a lecture room in such a manner that there are many students in a row as there are rows in the lecture room .How many students are there in each row?

19. There are certain number of rows of trees in a garden. The number of trees in each row is twice

the number of rows. If the number of trees in the garden is 1250 , find the number of rows

in the garden.

20. A gardener has 1500 plants. He wants to plant these in such a way that the number of rows

and the number of columns remain same. Find the minimum number of plants he needs more

for this.

21. A General arranges his soldiers in rows to form a perfect square .He finds that in doing so 50 soldiers are left out. If the total number of soldiers be 4811, find the total number of soldiers in each row?

22. A yoga instructor wants to arrange maximum possible number of 6000 students in a ground

so that the number of rows is same as the number of columns. How many rows will be there if

71 students were left out after the arrangement ?

INTERNATIONAL INDIAN SCHOOL DAMMAM

MATHEMATICS WORKSHEET-2014-2015

CLASS –VIII   **CUBE AND CUBEROOTS**

1. The unit digit of the cube of the number 1127 is

    a) 7   b) 4   c) 2   d) 3

2. Volume of a cube with side 2m is

    a) $9m^3$ b) $6m^3$ c) $8m^3$ d) $12m^3$

3. Number of digits in the cube root of 140608

    a) 3   b) 2   c) 4   d) 6

4. A perfect cube number does not end with _____zeros.

    a) 2   b) 6   c) 3   d) 9

5. The value of $\sqrt[3]{27} + 3^3$

    a) 12   b) 27   c) 10   d) 30

6. Find the digit in the ones place of the cubes of the following numbers.

    a) 79   b) 81   c) 94   d) 106   e) 37   f) 62   g) 45   h) 53

7. Find the cube root of the following numbers by prime factorization method

    a) 74088   b) 4096   c) 13824   d) 5832   e) 35937   f) 42875   g) 15625   h) 46656

    i) 175616

8. 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 number so obtained.

    a) 1024   b) 6561   c) 1125   d) 3456   e) 16384   f) 675   g) 9000

9. 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 quotient so obtained.

 a) 16875   b) 1188   c) 3087   d) 33275   e) 5632   f) 1600   g) 5103

10. Find the cube root of the following numbers by estimation method.

 a)4913 b)12167 c)54872 d)68921 e)592704 f)512000 g)857375

11. Raj made a cuboid of plasticine of 15cm, 30cm, 15cm.How many such cuboids will he need

 to form a cube?

12. Volume of a cube is 3375m^3.Find the side of the cube.

13. Is 53240 a perfect cube? If not, then by which smallest natural number should 53240 be

 divided so that the quotient is a perfect cube?

14. Shyam has colourful cuboidal blocks of sides 3cm,5cm,3cm.How many such blocks will be

 needed to form a perfect cube?

15. The side of a cube is 17cm.Find its volume.

16. A box with volume 4096 cm^3 is filled with cubes of edges 4 cm. How many cubes are there in the box?

1. In fig. AB ∥ CD , If ∟A= 110° and ∟C =50°, name the quadrilateral and find ∟B and ∟D.
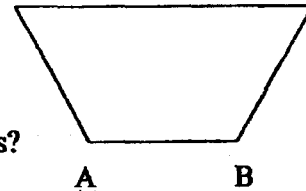
2. Three angles of a quadrilateral are equal and fourth angle is 130°.What is the measure of each of the equal angles?

3. The angles of a quadrilateral are in the ratio 3:4:5:6. Find the measure of each angle.

4. Two adjacent sidesof a parallelogram are in the ratio 2:7 and its perimeter is 63cm. Find all the sides of the parallelogram.

5. Two adjust angles of a parallelogram are in the ratio 3:2. Find all the angles of the parallelogram.

6. Find the measure of each angle of a parallelogram PQRS, if

   a) ∟P =(2x + 10)° and ∟R = (3x- 20)°   b) ∟Q =5y° and ∟S= (2y +19)°

7. In rhombus ABCD ,AC = 8cm and BD = 6cm. Find the length of AB.

8. The side of a rhombus is 13 cm and one of its diagonals is 24 cm. Find the length of the other diagonal and its area.

9 . One of the angles of a parallelogram is 85°, find the other angles.

10. The sum of the opposite angles of parallelogram is 130°. Find the measures of the angles of the parallelogram

11. In parallelogram ABCD ,the length of the sides AD = (6y -3)cm and BC=(3y +3)cm. Find the values of x and y.

12. Find the length of the diagonals of a rectangle whose sides are 12cm and 5cm.

13. One of the diagonals of a rhombus is equal to one of its sides. Find the angles of the rhombus.

14. How many sides does a regular polygon has if each of its interior angles is

   a. 135°   b.   108°

15. How many sides does a regular polygon has if each of its exterior angles is

   a. 15°   b.   45

16. Opposite sides of a parallelogram are——— and ————

17. A quadrilateral having only one pair of opposite sides parallel is called a———

18. A parallelogram having all sides equal is called a———

CH: UNDERSTANDING QUADRILATERALS

I. CHOOSE THE CORRECT ANSWER:

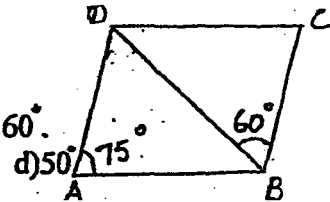1. If the sides of a pentagon are produced in an order, the sum of the exterior angle so formed is:
   a) $180°$ b) $360°$ c) $540°$ d) $720°$

2. A figure is an equiangular parallelogram if and only if it is a
   a) Rectangle   b) Rhombus   c) Regular polygon   d) None of these

3. In the figure, ABCD is a parallelogram in which $\angle BAD=75°$ and $\angle DBC= 60°$.
   Then $\angle CDB$ is equal to ———— a) $55°$ b) $60°$ c) $45°$ d) $50°$

4. How many sides does a regular polygon have if the measure of each exterior angle is $24°$?
    a) 8   b) 10   c) 15   d) 18

5. A rhombus is also a ——— a) square   b) rectangle   c) parallelogram   d) trapezium

6. If PQRS is a parallelogram, then $\angle P - \angle R$ is ——— a) $90°$ b) $0°$ c) $180°$ d) $360°$

II Solve the following:

7. The measure of an angle of a parallelogram is $70°$. Find all the angles.

8. Find the number of sides of a regular polygon, the sum of whose interior angle is 1620.

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

10. The ratio of two sides of a parallelogram is 2:5 and its perimeter is 70 cm. Find all the sides.

11. In a parallelogram PQRS, the lengths of the sides PS=(3z-1)cm and RQ=(2z+2)cm. Find the value of z
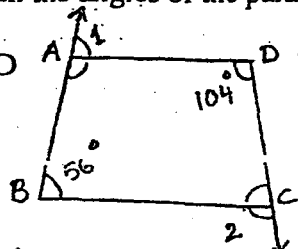
12. In a parallelogram KLMN, $\angle K$ is $30°$ more than $\angle L$. Find the measure of all the angles.
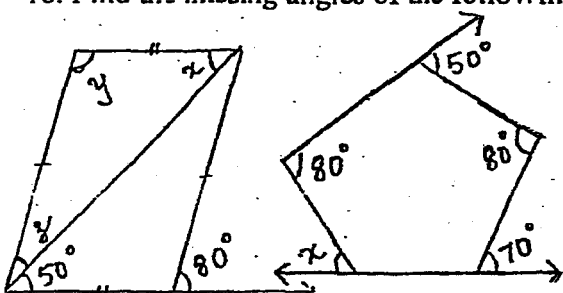
III Solve:

13. One of the diagonals of a rhombus is equal to one of its sides. Find the angles of the rhombus.

14. In the parallelogram ABCD, $\angle A=(3y-10)°$, $\angle D=(5y+30)°$. Find all the angles of the parallelogram.

15. In quadrilateral ABCD, $\angle B=56°$ and $\angle D=104°$. If $\angle BAD$ and $\angle BCD$ are in the ratio 2:3, find the values of $\angle 1$ and $\angle 2$.

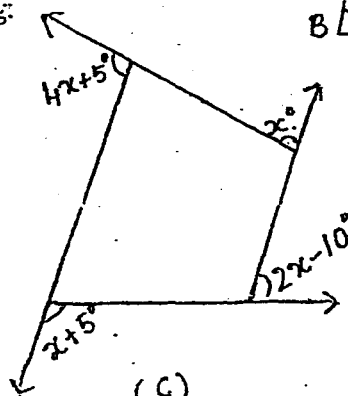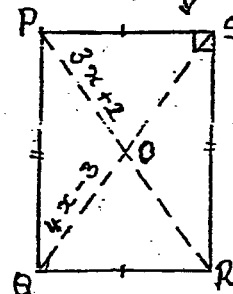16. Find the missing angles of the following:

(a)   (b)   (c)   (d) Find PR, QS

PRACTICAL GEOMETRY

1. Construct a quadrilateral ABCD in which AB =4.4cm, BC =4cm, CD= 6.4 cm, DA = 2.8 cm and BD= 6.6 cm. Measure the length of AC.

2. Construct a quadrilateral PQRS where PQ = 3 cm, QR = 5 cm, QS =5 cm ,PS= 4 cm and SR 7=4 cm .

3. Construct a parallelogram" MATH" where MA = 3.6 cm, AT= 4.2 cm and MT = 6.5 cm.

4. Construct a quadrilateral ABCD where AB = 5 cm, BC = 4 cm, AD =3 cm, CD =6 cm and BD = 5 cm .

5. Construct a quadrilateral" KIND" where KI = 3.8 cm, IN = 3 cm, KD = 2.3 cm ,KN = 4.5 cm and ID = 3.8 cm.

6. Construct a rhombus whose diagonals are of lengths 6.8 cm and 8.4 cm.

7. Construct a rectangle of adjacent sides 4.2 cm and 2.5 cm.

8. Construct a quadrilateral ABCD in which AB = BC = 3 cm, AD =5 cm , <A = 90° and < B = 105°.

9. Construct a quadrilateral "RENT" in which RE= 5cm, EN=6cm.RT=5.5cm, <R= 60° <E=105°.

10. Construct a quadrilateral "FAST" in which FA = 5.5 cm, AS = 4 cm, < F = 85°, < A = 100° and < S = 90°.

11. Construct a rhombus whose diagonals are of lengths 8 cm and 7 cm.

12. Construct a parallelogram LIFE, given that LI = 6 cm, IF = 5 cm and < L = 60°.

13. Construct a square of side 5.4 cm.

14. Construct a square of side 4.8 cm.

15. Construct a quadrilateral "RICE" in which RI=5cm .IC=6.5cm <R=60°,<I=100° ,<E=95°

INTERNATIONAL INDIAN SCHOOL, DAMMAM
MATHEMATICS WORKSHEET   2014-2015

RATIONAL NUMBERS

CLASS- V111

1. How many rational no.s are there in between 0 and 1

   (1, 100, 0, infinite)

2. Multiplicative inverse of -2/7 is --------------
3. The standard form of 8/(-64) is ------------
4. Write any five rational no.s in between   (i) -1 and 1   (ii) -3/4 and -4/3   (iii) 1/5 and 1/6
5. Subtract   (i) 3/7 from 2/3   (ii) 6 from 3/5   (iii) -4/7 from -3/11
6. What should be added to   3/4 to get -1/4
7. Represent the following no.s on a number line (i) 1/4, 1/2, 3/8   (ii) -3/4, 3/4, 2/4
8. Arrange the following rational numbers in descending order

   (i)4/5, -2/3, -1/2, -4/7   (ii) 4/-9, -5/12, 7/-18, -2/3

9. Fill in the blanks

   (i) -14/63 = -----/9 =-18/----   (ii) ----/60 = -5/-12 =-35/----

10. Using suitable rearrangement find the sum of the following

    (i) 4/3 + 3/5 + -2/3 + -11/5   (ii) -13/20 + 11/14 + -5/7 + 1

11. Using suitable properties find (i) 2/5 × -3/7 — 1/14 — 3/7 × 3/5

    (ii) -5/7 × 2/3 + 7/9 — 5/7 × 1/3   (ii) -3/2 × 4/5 + 9/5 × -10/3 — 1/2 × 3/4

    (iv) -4/9 × 2/3 — 1/3 × 4/9 + 1/2 ×1/6   (v) 9/16 × 4/12 + 9/16 × -5/15

12. Verify the following . Also mention the property used

    (i) 2 × -3/5 = -3/5 × 2 (ii) -12/5 × (4/15 x 25/ -16) = (-12/5 x 4/15) x 25/ -16

    (iii) -5/2 x(-2 + 11/3) = (-5/2 x -2) + (-5/2 x 11/3)

13. Divide the product of 5/9 and -6/5 by their difference

14. By what rational number should we multiply -3/7 to get 4/49 ?

Choose the correct answers:-

1. Square of $\left(\dfrac{-2}{3}\right)$

   (a) $\left(\dfrac{-2}{3}\right)$ (b) $\left(\dfrac{2}{3}\right)$ (c) $\left(\dfrac{-2}{3}\right)$ (d) $\left(\dfrac{4}{9}\right)$

2. Cube of $\left(\dfrac{-1}{2}\right)$

   (a) $\left(\dfrac{1}{8}\right)$ (b) $\left(\dfrac{1}{16}\right)$ (c) $\left(\dfrac{-1}{8}\right)$ (d) $\left(\dfrac{-1}{16}\right)$

3. $\left(\left(\dfrac{1}{3}\right)^2\right)^4$

   (a) $\left(\dfrac{1}{3}\right)^6$ (b) $\left(\dfrac{1}{3}\right)^8$ (c) $\left(\dfrac{1}{3}\right)^{24}$ (d) $\left(\dfrac{1}{3}\right)^{16}$

4. $\left(\dfrac{-1}{5}\right)^3 \div \left(\dfrac{-1}{5}\right)^8$ is equal to

   (a) $\left(\dfrac{-1}{5}\right)^5$ (b) $\left(\dfrac{-1}{5}\right)^{11}$ (c) $\left(\dfrac{1}{5}\right)^5$ (d) $(-5)^5$

5. Simplify the following

   $\left(\dfrac{1}{4}\right)^{-2} + \left(\dfrac{1}{2}\right)^{-2} + \left(\dfrac{1}{3}\right)^{-2}$

6. $\left\{ 6^{-1} + \left(\dfrac{3}{2}\right)^{-1} \right\}^{-1}$

7. $\left\{ \left(\dfrac{5}{3}\right)^{-1} - \left(\dfrac{1}{5}\right)^{-1} \right\}^{-1}$

8. $(2^{-1} \times 5^{-1})^2 \times \left(\dfrac{5}{8}\right)^{-1}$

9. $(6^{-1} - 8^{-1})^{-1} + (2^{-1} + 3^{-1})^{-1}$

10. $(4^{-1} + 8^{-1}) \div \left(\dfrac{2}{3}\right)^{-1}$

11. $\left[\left(\dfrac{1}{3}\right)^{-3} - \left(\dfrac{1}{2}\right)^{-3}\right] \div \left(\dfrac{1}{4}\right)^{-3}$

12. 12. Find 'x' so that $\left(\dfrac{7}{3}\right)^{-5} \times \left(\dfrac{7}{3}\right)^{-11} = \left(\dfrac{7}{3}\right)^{8x}$

13. 13. Find 'm' so that $\left(\dfrac{2}{9}\right)^{3} \times \left(\dfrac{2}{9}\right)^{-6} = \left(\dfrac{2}{9}\right)^{2m-1}$

14. Find the value of 'p' for which

$\left(7^5\right)^{p} \div 7^3 = 7^{12}$

15. By what number should $\left(\dfrac{1}{2}\right)^{-1}$ be multiplied so that the product may be equal

to $\left(\dfrac{-4}{7}\right)^{-1}$

16. By what number should $(-15)^{-1}$ be divided so that the quotient may be equal to $(-5)^{-1}$

17. By what number should $\left(\dfrac{-3}{2}\right)^{-3}$ be divided so that the quotient may be

$\left(\dfrac{4}{27}\right)^{-2}$

18. Find 'x' if $\left(\dfrac{3}{2}\right)^{-3} \times \left(\dfrac{3}{2}\right)^{5} = \left(\dfrac{3}{2}\right)^{2x+1}$

19. Express the following number in usual form
(i) 3.52×10^{5} (ii) 7.54×10^{-4} (iii) 7.9×10^{-11} (iv) 9.021×10^{-12}

20. Express the following number in standard form
(i)   0.0000000942
(ii)   0.000072984
(iii)   0.0000000685
(iv)   87500000000
(v)   954321

21. Simplify $\dfrac{169 X t^{-8} X 25}{26 X t^{4} X 10}$ $\dfrac{625^{-1} X 7 X a^{-4}}{49^{-2} X a^{2} X 5^{3}}$

21. Find the value of

(i) $\left(3^{-1} + 5^0\right) \times 4^{-1}$ 　　 (ii) $\left(7^0 + 5^0 + 2^{-1}\right) \times \left(\dfrac{2}{5}\right)^{-1}$ 　　 (iii) $\left(2^{-1} + 5^{-2} + 7^{-3}\right)^0$

22. Express the result in power notation with positive exponent

(i) 　 $\left(\dfrac{-3}{7}\right)^{-7}$ 　　 (ii) 　 $(-7)^{-5} \times \left(\dfrac{-2}{7}\right)^{-5}$

(iii) 　 $\left(\left(\dfrac{2}{5}\right)^5\right)^{-3}$ 　　 (iv) 　 $(3^{-6} \div 3^{-15}) \times 3^{-10}$