

INTERNATIONAL INDIAN SCHOOL - DAMMAM

SQUARES AND SQUARE ROOTS – Worksheet (2017-18) CLASS – VIII

1. How many natural numbers lie between 108^2 and 109^2 ?
2. Which of the following is not a perfect square?
(a) 361 (b) 1156 (c) 1128 (d) 1681 (e) 11250 (f) 729 (g) 484
3. The value of $\sqrt{176 + \sqrt{2401}}$
4. Find the least number by which each of the following numbers to be multiplied to make it a perfect square.
(a) 180 (b) 216 (c) 7875 (d) 2541
5. The area of a rectangular field whose length is twice its breadth is 2450 m^2 . Find the perimeter of the field.
6. During a mass drill exercise, 6250 students of different schools are arranged in rows such that the number of students in each row is equal to the number of rows. In doing so, the instructor finds out that 9 children are left out. Find the number of children in each row of the square.
7. Find the least number that must be added to each of the following numbers so as to get a perfect square. Also find the square root of the perfect square.
(a) 1500 (b) 4931 (c) 3064 (d) 4515
8. Find the square root of the following numbers:-
(a) 2209 (b) $\frac{625}{1296}$ (c) $4\frac{29}{49}$ (d) 11664 (e) 30.25 (f) 94.09
9. Find the hypotenuse of a right triangle with its legs of lengths $3x$ & $4x$.
10. Find the least number of four digits that is a perfect square.
11. A hall has a capacity of 2704 seats. If the number of rows is equal to the number of seats in each row, then find the number of seats in each row.
12. A General wishes to draw up his 7500 soldiers in the form of a square. After arranging, he found out that some of them are left out. How many soldiers were left out?
13. Rahul walks 12m north from his house and turns west to walk 35m to reach his friend's house. While returning, he walks diagonally from his friend's house to reach back to his house. What distance did he walk while returning?
14. Find three numbers in the ratio 2:3:5, the sum of whose squares is 608.
15. Find the smallest square number which is exactly divisible by 3, 4, 5, 6 and 8.

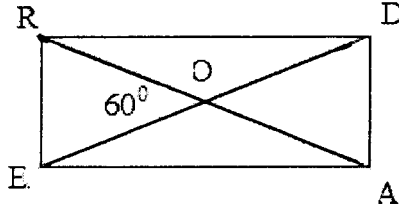
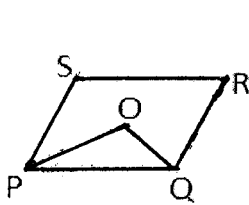
INTERNATIONAL INDIAN SCHOOL- DAMMAM
MATHS WORKSHEET CLASS-VIII TERM-I 2017-18'

COMPARING QUANTITIES

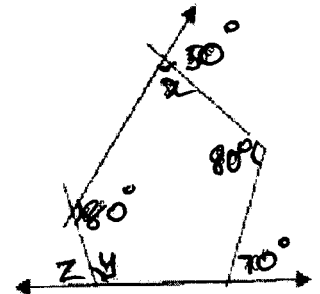
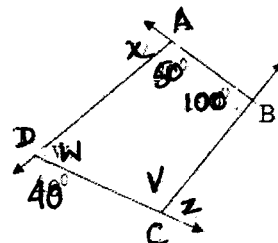
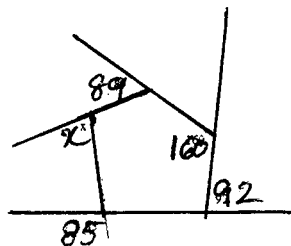
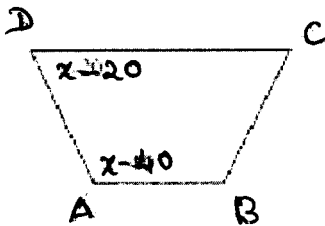
1. Find the ratio of: a) Rs.7 to 50 paise b)200m to2.4km c) 15min to $2\frac{1}{2}$ hr
2. Convert to percentages: a) 4:5 b) 0.08 c) $\frac{3}{8}$
3. Ram attended school for 216 days in a full year. If his percentage of number of days absent is 40% , find the total number of days on which the school was opened.
4. A man got a increase in his salary for 30% in his salary. If his new salary is Rs.26,000 find his original salary.
5. The taxes on a certain item has been reduced to Rs 580 from Rs.870. Find the percentage reduction in the taxes for that item.
6. A TV marked at Rs.15,000 is available for Rs 12,000. Find the discount and discount%.
7. During a sale, a shop gave a discount of 20% on marked price of all items. What would have a customer have to pay for a belt marked at Rs.750, three shirts at Rs 1,700 each and a tie at RS.800?
8. The cost of a table was Rs.8500 and Rs.1200 was spent on its repairs. If it is sold for a profit of 35%, find the selling price of the article.
9. The price of a music player is Rs.11000 ,the sales tax charged on it is at the rate of 18% on buying. Find the amount that a customer has to pay.
10. An iron box and a coat stand were bought for Rs.1500 each. The shopkeeper made a profit of 10% on the iron box and 7% loss on coatstand. Find the gain% or loss% on the whole transaction.
11. Nina purchased an I-POD for Rs 12600 including 5% VAT. Find the price before VAT was included.
12. Find the marked price of an item if SP= Rs.6500 and Discount = 10%
13. Calculate the amount and compound interest on Rs.20,000 for 1 year at 11% per annum compounded half yearly.
14. Ansar took a loan of Rs.45000 from a bank to build a house. If the rate of interest is 12% and interest is compounded annually, how much should he pay back after 3 years to settle the account?
15. Raj took a loan of Rs 50,000 from a bank. If the rate of interest is 10% per annum, find the difference in amounts he would be paying after 2 years if the interest is i)simple ii) compounded annually iii) compounded half yearly
16. The annual rate of growth of population of a certain city is 5%. If the population in 1999 is 250000. Find the population of the city in i) 2000 ii) 1997
17. The price of a house boat is Rs18000 and its value depreciates at the rate of 10% per annum. What will be its value after 2 years.
18. Raj borrowed Rs. 1,55,500 from a bank to buy a car at a rate 14% p.a compounded yearly. What amount will he pay at the end of 3 years and 4 months to clear the loan.

INTERNATIONAL INDIAN SCHOOL , DAMMAM
GRADE-8 MATHEMATICS WORKSHEET-UNDERSTANDING QUADRILATERALS

- If the diagonals of a quadrilateral bisect each other at right angles, it will be a _____.
- The diagonals of a _____ intersect at right angles but need not bisect.
- Name the quadrilaterals whose diagonals are equal in length.
- If the adjacent angles of a parallelogram are equal, then it is a _____.
- If PQRS is a parallelogram, then P – R is equal to _____.
- Name the quadrilateral which is equilateral but not equiangular.
- Name the quadrilateral which is equiangular but not equilateral.
- What is the maximum number of obtuse angles that a quadrilateral can have?
- Every parallelogram is a trapezium. Is the statement true? Give reason.
- The sides AB and CD of a quadrilateral ABCD are extended to points P and Q respectively. Is $\angle ADQ + \angle CBP = \angle A + \angle C$? Give reason.
- ABCD is a quadrilateral in which $AB = 5$ cm, $CD = 8$ cm and the sum of angle A and angle D is 180° . What is the name of this quadrilateral?
- Two adjacent angles of a parallelogram are in the ratio 4:5. Find their measures
- HOPE is a rectangle. Its diagonals meet at G. If $HG = 5x + 1$ and $EG = 4x + 19$, find x.
- If two adjacent angles of a parallelogram are $(5x - 5)^\circ$ and $(10x + 35)^\circ$, then find the ratio of these angles.
- Find the measures of all angles of the parallelogram, if its adjacent angles are $(2x - 4)^\circ$ and $(3x - 1)^\circ$.
- The diagonals of a rhombus are 8 cm and 15 cm. Find its side.
- The angles of a quadrilateral taken in order are in the ratio 3:7:6:4. Identify the quadrilateral.
- In parallelogram PQRS, the bisectors of angles P and Q meet at O. Find the measure of $\angle POQ$.



- In rectangle READ, find the measure of $\angle EAR$, $\angle RAD$ and $\angle ROD$.
- The ratio of an interior angle to exterior angle of a regular polygon is 1:4. Find the number of sides of the polygon.
- Find the value of the missing angles (v/w/x/y/z)



INTERNATIONAL INDIAN SCHOOL – DAMMAM

MATHS WORK SHEET 2017 – 2018

CLASS VIII

PRACTICAL GEOMETRY

- 1) Construct a quadrilateral ABCD in which
AB = 4.2 cm, BC = 4 cm, CD = 6.2 cm DA = 2.8 cm, BD = 6.6 cm
- 2) Construct a rhombus HOPE where HO = 5 cm EO = 6.5 cm
- 3) Construct a quadrilateral PQRS where PQ = 4 cm, QR = 5.5 cm, QS = 4.5 cm, PS = 4.5 cm and SR = 4cm.
- 4) Construct a quadrilateral ABCD where AB = 5cm, BC = 4 cm, AD = 3cm, and BD = 5 cm.
- 5) Construct a rhombus whose diagonals are of length 7.5 cm and 8 cm.
- 6) Construct a square of side 4.5 cm
- 7) Construct a rectangle of adjacent sides 4.8 cm and 2.5 cm.
- 8) Construct a parallelogram KIND in which KI = 5.5 cm IN = 6.5 cm $\angle D = 120^\circ$
- 9) Construct a quadrilateral BEST in which BE = 5.5, ES = 4cm, $\angle B = 80^\circ$, $\angle E = 100^\circ$ and $\angle S = 90^\circ$
- 10) Construction a quadrilateral ABCD in which AB = BC = 4cm and AD = 5.5 cm $\angle A = 90^\circ$ and $\angle B = 110^\circ$
- 11) Construct a rhombus whose diagonals are of length 9.6 cm and 10.2 cm
- 12) Construct a square of sides 5.8 cm.
- 13) Construct a parallelogram ABCD in which AB = 5cm, BC = 4.2 cm and $\angle A = 45^\circ$
- 14) Construct a quadrilateral 'FAST' in which FA = 6cm, AS = 4cm, $\angle F = 75^\circ$, $\angle A = 110^\circ$ and $\angle S = 60^\circ$

INTERNATIONAL INDIAN SCHOOL - DAMMAM

MATHEMATICS WORK SHEET - 2017 – 18

STD - VIII CHAPTER - VISUALISING SOLID SHAPES

POLYHEDRONS

A polyhedron is a solid in 3 dimensions with flat polygonal faces, straight edges and sharp corners or vertices.

The most familiar example of a polyhedron is a cube. Its faces are squares. It has 6 faces, 12 edges and 8 vertices. Another example is a pyramid. A pyramid has a bottom face, which can be any polygon and the rest of its faces meet in one point.

REGULAR POLYHEDRON

A polyhedron is said to be regular if its faces are made up of regular polygons and the same number of faces meet at each vertex.

Eg: cube, tetrahedron (four equilateral triangular faces)

PRISM

Prism is a polyhedron whose base and top are congruent polygons and whose other faces i.e. lateral faces are parallelograms in shape.

PYRAMID

Pyramid is a polyhedron whose base is a polygon (of any number of sides) and whose lateral faces are triangles with a common vertex.

EULER'S FORMULA

The number of faces + number of vertices - number of edges = 2

$$F + V - E = 2$$

- 1) Which of the following cannot be true for a polyhedron?
a) $V = 4, F = 4, E = 6$ b) $V = 6, F = 8, E = 12$ c) $V = 20, F = 12, E = 30$
- 2) If the sum of number of vertices and faces in a polyhedron is 14 then the no of edges in that shape is _____
- 3) A square pyramid has 5 faces and 5 edges. By Euler's formula find the number of vertices of the pyramid.
- 4) By using Euler's formula find the unknown
 - a) $V = 12, F = 4, E = ?$
 - b) $F = 5, E = 8, V = ?$
 - c) $E = 2, V = 3, F = ?$

INDIAN INTERNATIONAL SCHOOL DAMMAM
WORKSHEET DIRECT AND INVERSE PROPORTIONS
CLASS VIII **2017 - 18**

1. Fill in the blanks to make the statements true.

- a) Amrita takes 18 hours to travel 720 kilometres. Time taken by her to travel 360 kilometres is ----
- b) If x and y are inversely proportional then $\frac{x}{y} = k$ where k is positive constant
- c) Side of a rhombus and its perimeter are in _____ proportion.

2. State whether the statements are true (T) or false (F):

- a) When two quantities x and y are in inverse proportion, then x/y is a constant.
- b) If the cost of 10 pencils is Rs 90, then the cost of 19 pencils is Rs 171.
- c) If 5 persons can finish a job in 10 days then one person will finish it in 2 days.

3. Solve the following questions.

- i) In a scout camp, there is food provision for 300 cadets for 42 days. If 50 more persons join the camp, for how many days will the provision last?
- ii) If two cardboard boxes occupy 500 cubic centimetres space, then how much space is required to keep 200 such boxes?
- iii) Under the condition that the temperature remains constant, the volume of gas is inversely proportional to its pressure. If the volume of gas is 630 cubic centimetres at a pressure of 360 mm of mercury, then what will be the pressure of the gas if its volume is 720 cubic centimetres at the same temperature?
- iv) Sobi types 108 words in 6 minutes. How many words would she type in half an hour?
- v) It is given that l varies directly as m . (i) Write an equation which relates l and m . (ii) Find the constant of proportion (k), when l is 6 then m is 18. (iii) Find l , when m is 33.
- vi) The students of Anju's class sold posters to raise money. Anju wanted to create a ratio for finding the amount of money her class would make for different numbers of posters sold. She knew they could raise Rs 250 for every 60 posters sold
- (a) How much money would Anju's class make for selling 102 posters?
- (b) Could Anju's class raise exactly Rs 2,000? If so, how many posters would they need to sell? If not, why?
- vii) 30 men can reap a field in 17 days. If the field is to be reaped in 10 days then how many men will be required? How many extra men are to be employed?
- viii) If x varies inversely as y and $x = 20$ when $y = 600$, find y when $x = 400$.
- ix) The variable x varies directly as y and $x = 80$ when y is 160. What is y when x is 64?
- x) In a camp, there is enough flour for 300 persons for 42 days. How long will the flour last if 20 more persons join the camp?
- xi) A contractor undertook a contract to complete a part of a stadium in 9 months with a team of 560 persons. Later on, it was required to complete the job in 5 months. How many extra persons should he employ to complete the work?

INTERNATIONAL INDIAN SCHOOL, DAMMAN

MATHEMATICS WORKSHEET 2017-2018

CLASS: VIII CHAPTER-7 CUBES AND CUBE ROOTS

1. Find the cube of following numbers:-
a) 7 b) 2.5 c) 11 d) 0.3
2. Find the cube root of 125/1000.
3. Find $\sqrt[3]{1000} + \sqrt[3]{343000}$
4. Find the volume of cube with side 4cm.
5. Find the cube root of following numbers by prime factorisation method:-
a) 216000 b)15625 c) 27000000
6. 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.
a)10125 b) 78125
7. Find the smallest number by which each of the following numbers must be multiplied to obtain a perfect cube.
a) 16875 b) 6912 c)121000
8. Rahul makes a cuboid of plasticine of sides 4cm, 8cm and 12cm. How many such cuboids will he need to form a cube?
9. Volume of a cube is 4741632cm^3 . Find the side of the cube.
10. Find $\sqrt[3]{27000} \times \sqrt[3]{2744}$
11. Simplify $\sqrt[3]{2744} \div \sqrt[3]{343}$
12. Find $\sqrt[3]{10.648} - \sqrt[3]{0.064}$
13. Which are perfect cubes from the following numbers?
a) 90 b) 900 c) 27000 d) 8000000
14. Find the unit's digit of the cubes of each of the following numbers.
a) 5 b) 7 c) 9 d) 11