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## CLASS- VIII - Mathematics

- Two numbers are such that the ratio between them is 4:7. If each is increased by 10, the ratio between the new numbers so formed is 6:9. Find the original numbers.
- The sum of the digits of a two digit number is 13. If the new number formed by reversing the digits is lesser than the original by 9, find the original number.
- A steamer goes downstream from one port to another in 1hr while it comes back in  $1\frac{1}{2}$ hr. If the speed of the stream be 3km/hr, what is the speed of boat in still water?
- A train 108m long moving at a speed of 50km/hr crosses a train 112m long coming from opposite direction in 6 secs. Find the speed of the second train.
- A motor boat, whose speed is 15km/hr in still water goes 30km downstream and comes back in total 4hr 30mins. Then find the speed of the stream .
- Abhay's age after 6 years will be three-sevenths of his Father's age. Ten years ago the ratio of their ages was 1:5. What is Abhay's Father's age at present ?
- Find the value of  $\sqrt{\frac{0.289}{0.00121}}$
- Evaluate  $\sqrt{0.9}$  upto 3 places of decimal
- Find the greatest number of 5 digits that is a perfect square.
- If  $\sqrt{15} = 3.88$ , then find  $\sqrt{\frac{5}{3}}$ .
- Evaluate  $\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}}$
- If  $a = 0.1039$ , then the value of  $\sqrt{4a^2 - 4a + 1} + 3a$
- Find the smallest number added to 680621 to make the sum a perfect square.
- Find the value of  $\sqrt[3]{4\frac{12}{125}}$
- Which is the largest 4 digit number which is a perfect cube.
- Find the value of  $\sqrt[3]{(\sqrt{.000064})}$
- What is the smallest number by which 3500 must be divided to make it a perfect cube?
- Of the three numbers, second is twice the first and is also thrice the third. If the avg. of three numbers is 44, then find the largest number.
- If the angles of a quadrilateral are in the ratio of 1:3:2:6, then find the difference between the largest and smallest angle.
- Two adjacent angles of a parallelogram are as 4:5. Find the measure of each of its angles.
- In a parallelogram ABCD, the line segments AE and CF bisect the angles A and C respectively. Then what is the nature of the AECF.
- Find the maximum exterior angle possible for a regular polygon.
- The sum all interior angles of a regular polygon is  $1800^\circ$ . What is the measure of each interior angle?
- In a regular polygon, each interior angle is twice the exterior angle. Find the number of sides of the polygon.
- Measure of each interior angle of a polygon is  $172^\circ$ . How many sides it has ?
- How many sides a polygon can have with each exterior angle  $72^\circ$ .
- All the sides of a pentagon are extended in order, and their exterior angles measured. Find the sum of all the exterior angles so formed.
- Factorize :  $ab(x^2 + y^2) - xy(a^2 + b^2)$ .
- Factorize :  $3x^2 - 2x - 21$
- What are the factors of the expression :  $p^2 + s^2 - q^2 - r^2 + 2(ps + qr)$ .