

Pune Jilha Ganit Adhyapak Mandal, Brihanmumbai Ganit Adhyapak Mandal and
Ganit Adhyayan Adhyapan Vikasan Sanstha Nashik

GANIT PRABHUTWA EXAMINATION

Date : 11.12.2016

Std - VIII

Total Marks : 100

Time : 3 Hours

N.B. For Q. No. 2 to 7, proper procedure and explanation is necessary.

Q. 1 A) Choose the correct alternative and write it against the sub question number. 10

- 1) \square PQRS is a cyclic quadrilateral, $m\angle P = 2x + 50$, $m\angle R = 2x - 30$, then $m\angle R = \dots\dots\dots$
A) 40° B) 130° C) 50° D) information is insufficient
- 2) $(6.2 \times 10^{12}) \div (5 \times 10^{11}) = \dots\dots\dots$
A) $\frac{6.2}{5}$ B) $\frac{62}{5}$ C) $\frac{620}{5}$ D) $\frac{6.2}{5} \times 10^{-1}$
- 3) If 64% of 1600 is equal to 80% of x, find x.
A) 1024 B) 1280 C) 6400 D) 320
- 4) $a : b = 4 : 7$ and $b : c = 5 : 8$ then $c : a = \dots\dots\dots$
A) 5 : 14 B) 1 : 2 C) 2 : 1 D) 14 : 5
- 5) Market price of a machine is Rs.20,000 on which 15% discount is offered.
What is the purchasing price of the machine?
A) ₹ 17000 B) ₹ 23000 C) ₹ 20015 D) ₹ 19985
- 6) 60 A 18 is divisible by 3 So A can be
A) 3 or 6 B) 6 or 9
C) 0 or 3 or 6 D) 0 or 3 or 6 or 9
- 7) The smallest of 5 consecutive numbers is x. What is the average of those numbers?
A) $\frac{5(x+1)}{2}$ B) $\frac{x+2}{5}$ C) $\frac{x+5}{5}$ D) $x+2$
- 8) $\sqrt{156816} = 396$. Hence, What is the square root of (15.6815×10^{-2}) ?
A) 3.96 B) 0.396 C) 39.6 D) 396
- 9) The sum of all exterior angles of a pentagon is
A) 360° B) 540° C) 720° D) 1080°
- 10) A circle is inscribed in a square having side 42 cm. What is the area of the circle?
A) 1764 cm^2 B) 378 cm^2 C) 3150 cm^2 D) 1386 cm^2

B) Write only answer of each of the following.

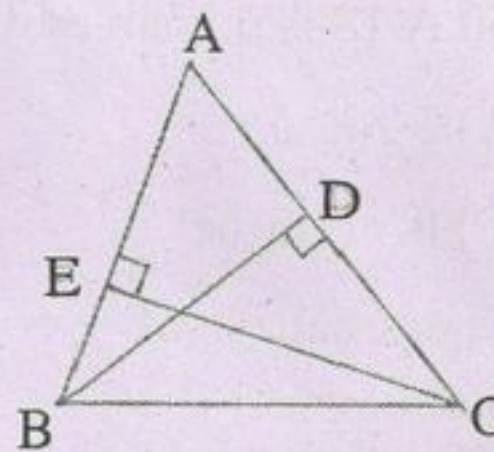
10

- 1) The sides of a triangle are 4cm, 4cm, $\sqrt{32}$ cm. What is the radius of the circumcircle of the triangle.
- 2) Insert brackets at proper places, so that the following statement is true and write the statement.
 $27 + 9 \times 3 - 5 + 2 = -4$
- 3) The measures of angles of a quadrilateral, in order, are 72° , 72° , 108° , 108° . Name the type of the quadrilateral.
- 4) In a running race the ratio of the time taken by three runners is 3 : 5 : 4. What is the ratio of their speeds?
- 5) Simple interest on a certain sum is $\frac{9}{16}$ th of the sum. If the rate of interest is equal to the number of years, what is the rate of interest?

Q. 2) Solve the following sub-questions.

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- 1) Which expression should be added to the sum of $(6p^2 + 4p - 17)$ and $(4p^2 - 7p + 10)$ to get $(10p^2 - p + 11)$?
- 2) Factorise : $27y^3 + 8x^3$
- 3) If $x^2 - 4x + 1 = 0$; Find the value of $x^2 + \frac{1}{x^2}$.
- 4) The length, breadth and height of a box are 12cm, 9cm, 8cm. Find the length of the diagonal of the box.
- 5) In the adjoining figure; seg CE \perp side AB,
seg BD \perp side AC,
prove that $\triangle ABD \sim \triangle ACE$



Q. 3) Solve, the following sub-questions.

20

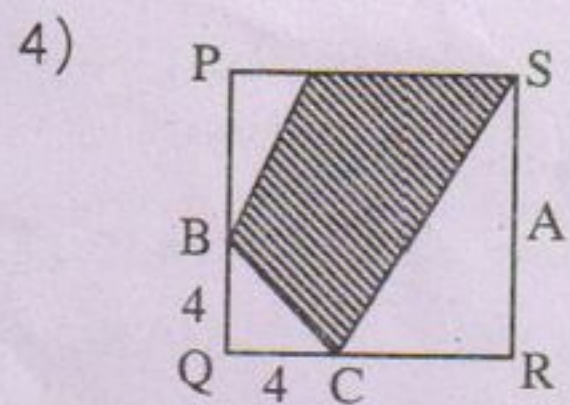
- 1) If $a = b^{2x}$, $b = c^{2y}$, $c = a^{2z}$, then find the value of xyz .
- 2) A works twice as fast as B. If B alone can complete a job in 18 days, find how many days will A and B together take to complete the same job?
- 3) Construct a segment of $\sqrt{10}$ unit length. Hence plot the point on a number line indicating $\sqrt{10}$.
- 4) The difference between the circumference and the diameter of a circle is 45cm. Find the radius of the circle. ($\pi = \frac{22}{7}$)

- 5) Mahadeo got a bicycle with marked price of Rs. 1900, for Rs. 1805/- Find the percentage of discount he got.

Q. 4) Solve, the following sub-questions.

20

- 1) Three numbers are such that G.C.D. and L.C.M of first two numbers is 25 and 150 respectively. GCD and LCM of second and third number is 15 and 525 respectively and GCD and LCM of first and third number is 5 and 1050 respectively. Find the numbers.
- 2) In a school 58% of the students play cricket, 38% play football and 17% of the students do not play either of the two games. The number of students playing cricket and football both is 104. Find the number of students in the school.
- 3) The perimeter of a rectangle is 230 cm. If its length is decreased by 10% and its breadth is increased by 10%, the perimeter decreases by 6cm. Find the length and breadth of the rectangle.



□ PQRS is a square.

$$RS = 10, BQ = QC = 4$$

$$AS = 7,$$

Find the area of the shaded region.

- 5) A man covered a distance of 15 km in 3 hours, partly by walking and partly by running. If he walks at 3 km/hr and runs at 9 km/hr. Find the distance he covered by running.

Q. 5) Solve the following sub-questions.

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- 1) If $\frac{9^n \times 3^5 \times (27)^3}{3 \times (81)^4} = 27$, find the value of n.
- 2) There were 6400 workers on the construction work of a bridge. It was decided to reduce the number of workers by 25% every year. How many workers were there after 2 years?
- 3) By which smallest number should 281216 be divided so that the quotient will be a perfect cube?
- 4) Simplify: $\frac{x^6 - y^6}{x^4 - y^4}$
- 5) An integer is such that half of the next integer is at least 4 more than one third of the previous integer. Find the least value of the integer.

