

# Brihan Mumbai Ganit Adhyapak Mandal, Mumbai

Date : 26-7-2014

MATHS CONCEPT EXAMINATION 2014

Time : 3 am. to 5 pm.

STD. : VIII

MAX. MARKS : 100

**Instructions :** 1) Question paper and answersheet are separate.

2) Rough work is to be done in the space provided in each page of the question paper.

3) Do not fold the answersheet.

4) Colour the correct alternative with the ballpen as follows.

Ex. 1) What is the sum of all angles of a quadrilateral ?

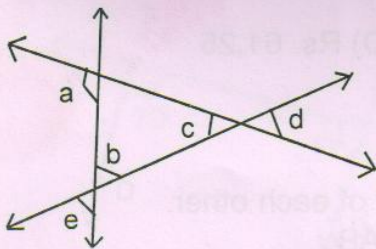
A)  $180^\circ$  B)  $360^\circ$  C)  $120^\circ$  D) none of these

On Answer Sheet - A)  B)  C)  D)

(Correct answer is B)  $\therefore$  B) is coloured as shown above)

- 1) The cost of 17 pens is Rs. 323. What is the cost of 23 pens of same type ?  
A) Rs. 190 B) Rs. 437 C) Rs. 361 D) Rs. 238
- 2)  $\sqrt{60^2 + 11^2} = ?$   
A)  $61^2$  B) 61 C) 31 D) 71
- 3) What is the L.C.M. and G.C.D. of the numbers 19 and 20 respectively ?  
A) 1,380 B) 380,1 C) 0,380 D) 380,0
- 4)  $(3x^0 + 2y^0 + 5)^0 = ?$   
A) 13 B) 5 C) 10 D) 1
- 5) Out of 376 student appeared for Ganit Prabhutwa Examination, 94 got scholarship  
What is the percentage of the student who got the scholarship ?  
A) 0.32% B) 4% C) 75% D) 25%
- 6)  $1846.8 \div 7.2 = ?$   
A) 25.65 B) 2.565 C) 2565 D) 256.5
- 7) 18 workers can complete a work in 18 days. In how many days the same work can be completed by 12 workers ?  
A) 36 days B) 6 days C) 12 days D) 27 days

8)



In adjoining figure, what is the relation between  $\angle a$  and  $\angle b$

- A) Alternate angles B) Corrosponding angles  
C) Opposite angles D) None of these

Rough work

9)  $(m + 5)(m - 7) = ?$

- A)  $m^2 + 2m - 35$     B)  $m^2 + 2m + 35$     C)  $m^2 - 2m - 35$     D)  $m^2 - 12m - 35$

10) What is the multiplicative inverse of  $\frac{-9}{5}$  ?

- A)  $\frac{9}{5}$     B)  $\frac{-5}{9}$     C)  $\frac{5}{9}$     D)  $\frac{9}{-5}$

11) Ramesh and Suresh together have Rs. 48. If Suresh has Rs. 2 more than Ramesh. What amount Suresh has ?

- A) RS. 23    B) Rs. 25    C) Rs. 22    D) Rs. 26

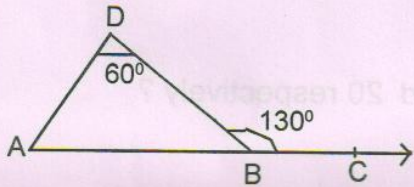
12)  $(0.02)^3 = ?$

- A) 0.000008    B) 0.08    C) 0.0008    D) 0.008

13)  $[(-2)^3]^4 = ?$

- A)  $(-2)^{12}$     B)  $(-2)^7$     C)  $(2)^7$     D)  $-24$

14)



In adjoining figure,  $\angle DBC$  is an exterior angle of  $\triangle DAB$ . If  $\angle ADB = 60^\circ$ ,  $\angle DBC = 130^\circ$ .

Find measure of  $\angle DAB$ .

- A)  $70^\circ$     B)  $60^\circ$     C)  $180^\circ$     D)  $50^\circ$

15)  $\frac{1}{2}x^2 \times \frac{1}{3}y^3 = ?$

- A)  $\frac{1}{6}x^2y^3$     B)  $\frac{2}{5}x^2y^3$     C)  $\frac{1}{6}xy^5$     D)  $\frac{5}{6}x^2y^3$

16) If  $10 + 2x = 28 - 7x$  then find the value of  $x$ .

- A)  $-2$     B)  $2$     C)  $\frac{18}{5}$     D)  $\frac{18}{5}$

17) All angles of a quadrilateral are equal, then what type of quadrilateral is it ?

- A) Rhombus    B) Rectangle    C) Kite    D) Trapezium

18) What is the simple interest of the sum Rs. 3500 for  $2\frac{1}{2}$  years at the rate 7% per annum ?

- A) Rs. 612.50    B) Rs. 612.05    C) Rs. 612.25    D) Rs. 61.25

19) Find the true statement from the following -

- A) Seg. AB is the perpendicular bisector of line CD.  
 B) Line CD and Seg. AB are the perpendicular bisector of each other.  
 C) Line CD is the perpendicular bisector of segment AB.  
 D) All statements given above are true.

20) If  $(xy)^{10} = x^a y^b$  then find the values of a and b.

- A)  $a = 5, b = 5$       B)  $a = 1, b = 10$   
 C)  $a = 10, b = 10$     D)  $a = 2, b = 8$

21) If  $p = 3, q = -5, r = 0$  then what is the value of  $3p^2 - 6q + r$  ?

- A) -3      B) 61      C) 57      D) 60

22) Find the measure of the supplementary angle of the complementary angle of  $50^\circ$ .

- A)  $40^\circ$       B)  $130^\circ$       C)  $140^\circ$       D) None of the above

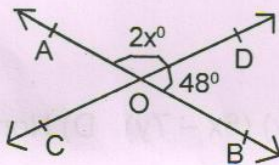
23) Find the greatest common factor of  $4p^2q, 20pq^3$ .

- A)  $2pq$       B)  $2p^2q^2$       C)  $5pq^2$       D)  $4pq$

24) Length of the hypotenuse and one side of a right angled triangle are 7.5 cm and 6 cm respectively. What is the length of the remaining side of the triangle ?

- A) 2.5 cm      B) 1.5 cm      C) 4.5 cm      D) 45 cm

25)



In adjoining figure, If  $m\angle DOB = 48^\circ$ ,

$m\angle AOD = 2x^\circ$  then find the value of x.

- A) 132      B) 24  
 C) 66      D) 56

26) Perimeter of a square is 40 cm. What is the area of the square ?

- A) 1600 Sq.cm      B) 100 Sq.cm      C) 160 Sq.cm      D) 20 Sq.cm

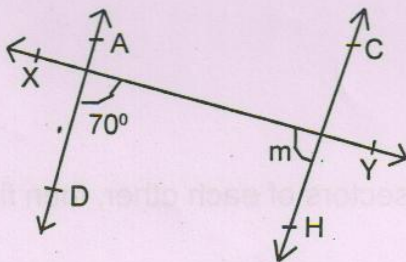
27) Write in the ascending order -  $\frac{2}{3}, \frac{3}{4}, \frac{4}{5}$

- A)  $\frac{2}{3}, \frac{3}{4}, \frac{4}{5}$       B)  $\frac{2}{3}, \frac{4}{5}, \frac{3}{4}$       C)  $\frac{4}{5}, \frac{3}{4}, \frac{2}{3}$       D)  $\frac{4}{5}, \frac{2}{3}, \frac{3}{4}$

28) Zero is written in the form of rational number as follows -

- A)  $\frac{0}{0}$       B)  $\frac{0}{-6}$       C)  $\frac{5}{5}$       D) all above answers are correct

29)



In adjoining figure line  $AD \parallel$  line  $CH$ ,  
 line  $XY$  is transversal. Observe the figure  
 and find the value of m.

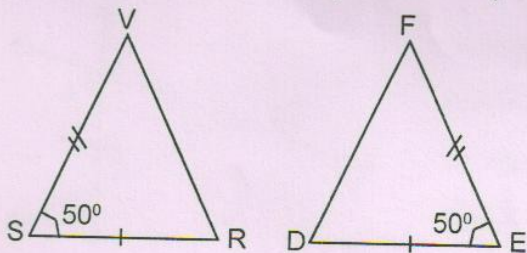
- A)  $70^\circ$       B)  $35^\circ$   
 C)  $110^\circ$       D)  $55^\circ$

Rough work

- 30) Solve.  $\left[ \frac{9}{7} + \left( \frac{-11}{14} \right) \right] \times \frac{2}{3}$   
 A)  $\frac{-2}{21}$     B)  $\frac{2}{21}$     C)  $\frac{6}{7}$     D)  $\frac{1}{3}$
- 31) Length and breadth of a floor of a room are 6.6 meter and 4.5 meter respectively. How many square tiles of side 30 cm are required to cover it ?  
 A) 99    B) 330    C) 3300    D) 33
- 32) How many digits are there in the square root of nine digit complete square ?  
 A) 3    B) 4    C) 5    D) None of these
- 33) The length, breadth and height of a cuboid are 3 cm, 0.5 cm and 1.5 cm resp. Then find the volume of that cuboid.  
 A)  $225 \text{ cm}^3$     B)  $2.25 \text{ cm}^3$     C)  $6.25 \text{ cm}^3$     D)  $22.5 \text{ cm}^3$
- 34) Solve.  $5\frac{1}{3} - 2\frac{1}{5} - 3\frac{2}{5} = ?$   
 A)  $\frac{98}{15}$     B)  $\frac{-4}{15}$     C)  $\frac{164}{15}$     D)  $\frac{4}{5}$
- 35) Find the factors of :  $25x^2 - 70xy + 49y^2$   
 A)  $(5x + 7y)(5x - 7y)$     B)  $(5x + 7y)(5x + 7y)$     C)  $(5x - 7y)(5x - 7y)$     D) None of these
- 36) What type of angle is the angle inscribed in a semicircle ?  
 A) Right angle    B) Acute angle    C) Obtuse angle    D) Linear angle
- 37) Which triangle can be constructed from the following measures ?  
 A)  $\triangle ABC$ ,  $\ell(AB) = 2 \text{ cm}$ ,  $\ell(BC) = 5 \text{ cm}$ ,  $\ell(CA) = 3 \text{ cm}$ ,  
 B)  $\triangle PQR$ ,  $\angle P = 90^\circ$ ,  $\ell(PQ) = 5 \text{ cm}$ ,  $\angle Q = 100^\circ$   
 C)  $\triangle XYZ$ ,  $\angle X = 70^\circ$ ,  $\ell(XY) = 5 \text{ cm}$ ,  $\ell(YZ) = 6 \text{ cm}$   
 D)  $\triangle LMN$ ,  $\angle M = 100^\circ$ ,  $\ell(MN) = 4.5 \text{ cm}$ ,  $\angle N = 40^\circ$
- 38) Find the product :  $(1 - 5m)(1 + 5m)$   
 A)  $1 - 25m^2$     B)  $1 + 25m^2$     C)  $1 - 10m + 25m^2$     D)  $25m^2 - 1$
- 39)  $\sqrt{4\frac{21}{25}} = ?$   
 A)  $2\frac{\sqrt{21}}{5}$     B)  $\frac{11}{5}$     C)  $\frac{11}{25}$     D)  $\frac{21}{10}$
- 40) Diagonals of a quadrilateral are the perpendic bisectors of each other, then find the type of the quadrilateral.  
 A) Rhombus    B) Rectangle    C) paralelogram    D) Kite

- 41) ABCD is a cyclic quadrilateral. If  $\angle A = 68^\circ$  then find the measure of  $\angle C$ .  
 A)  $68^\circ$     B)  $112^\circ$     C)  $22^\circ$     D) None of these
- 42)  $(-1)^{57} = ?$   
 A)  $-1$     B)  $57$     C)  $1$     D)  $-57$
- 43) Cost price of a cupboard is Rs. 4000 and if the selling price is of that cupboard is Rs. 5000. Then find the profit or loss percentage.  
 A) 20% profit    B) 25% profit    C) 50% profit    D) 25% loss
- 44) A sum amounts to Rs. 18600 and the simple interest of it is Rs. 3600, for 2 years. Then find the rate of interest per annum.  
 A) 14    B) 140    C) 12    D) 120
- 45) The measures of the angles of a triangle are  $x^\circ$ ,  $2x^\circ$  and  $3x^\circ$  resp. Then find the type of that triangle.  
 A) Acute angled triangle    B) Right angled triangle  
 C) Obtuse angled triangle    D) Equilateral triangle
- 46) The maximum daily temperature in a certain city was recorded for a week as follows :  
 Find the average daily temperature for that week.  
 $34.5^\circ\text{C}$ ,  $34.6^\circ\text{C}$ ,  $34^\circ\text{C}$ ,  $35.5^\circ\text{C}$ ,  $35.6^\circ\text{C}$ ,  $35.3^\circ\text{C}$ ,  $35.6^\circ\text{C}$   
 A)  $36^\circ\text{C}$     B)  $35^\circ\text{C}$     C)  $34^\circ\text{C}$     D)  $34.5^\circ\text{C}$
- 47) Total cost of a notebook, book and a pen is Rs. 90. The cost of a book is one and half times that of a notebook and cost of a notebook is double the cost of a pen. What is the cost of a notebook ?  
 A) Rs. 30    B) Rs. 45    C) Rs. 15    D) Rs. 7.50
- 48) When 110, 80 and 140 is divided by the same number, the remainder is 5 at each division. Then find the greatest divisor of those numbers.  
 A) 5    B) 10    C) 15    D) 20
- 49)  $\triangle ABC$  is an isosceles triangle. If measure of  $\angle B = 110^\circ$  then find the measure of  $\angle C$ .  
 A)  $110^\circ$     B)  $35^\circ$     C)  $70^\circ$     D)  $45^\circ$

50)



In the given figure, equal parts are shown by identical marks. Which of the following is the correct correspondence, if the given triangles are congruent ?

- A)  $\triangle VSR \leftrightarrow \triangle DEF$     B)  $\triangle VSR \leftrightarrow \triangle FDE$   
 C)  $\triangle VSR \leftrightarrow \triangle FED$     D)  $\triangle VSR \leftrightarrow \triangle EFD$