

# JB Academy Annual Examination (2019-20) Class VII (Mathematics)

Sec./Roll No. ....

Name..... Time: 3 Hours

Max. Marks:80

# Mental Maths. (10 marks)



**4.** Find the value of y in the following:



**5.** Solve the following equations:

(a) 8x - 3 = 9 - 2x

(b)  $\frac{2}{3} X = \frac{3}{8} X + \frac{7}{12}$ 

(c) 2(x-2) + 3(4x-1) = 0

(3)



7. Find the area of right angled triangle with base 12 m and hypotenuse 37 m.(2)

**8.** Find the circumference of the circle whose diameter is 35cm. (2)

**9.** Divide Rs 1100 among A, B, C in the ratio 2 : 3 : 5. (2)

# **10.** What percent is : (a) Rs 15 of Rs120?

(b) 36 minutes of 2 hours?

**11.** Find CP when SP = Rs 8510 and loss rate is 8 %. (2)

**12.** Subtract 
$$x^2 - y^2$$
 from  $2x^2 - 3y^2 + 6xy$ . (2)

**13.** If 
$$p = (-10)$$
 find the value of  $p^3 - 3p - 10$ . (2)

14. Write the prime factorization of the following numbers in the exponential form:
(a) 540
(b) 648

**15.** Simplify the following and give your answer in Rational Numbers. (2) (a)  $5^2 \times 3^3$  (b)  $3^2 \times 10^4$ 

**16.** List five Rational numbers between: (2) (a)  $\frac{-4}{5}$ ,  $\frac{-2}{3}$  (b) -1 and 0. **17.** Simplify the following:

(a) 
$$\frac{-7}{10} + \frac{13}{-15} + \frac{27}{20}$$
 (b)  $\frac{-7}{30} X \frac{5}{14}$ 

### Application Based:

#### (29 marks)

18. In the given figure M is any point on the side QR of triangle PQR.Show that: PQ + QR + RP > 2 MP. (3)

19. Swati is 3 years younger than her brother Anuj. If the sum of their ages is 33 years. Find their ages. (2)

**21.** The diameter of a circular park is 84m. A 7m wide rode runs on the outside around it. Find the cost of construction of the road at the rate of Rs  $200/m^2$ . (3)

22. A rectangular lawn 20m X 50 m has two roads each 5m wide running through its middle. One parallel to its length and other is parallel to its width. Find the cost of constructing the roads at Rs 120/m<sup>2</sup>. (3)

(2)

23. Arjun and Ramesh borrowed Rs 6000 each at the rate of 12% p.a. for a period of 2 years and 3 years respectively. Find the Simple Interest paid by each of them.(3)

24. Anil bought an Almirah for Rs. 13600 and spent Rs 400 on its transportation. He sold it for Rs 16800. Find his gain percent. (2)

**25.** Subtract the sum of  $(8m - 7n + 6p^2)$  and  $(3m - 4n + p^2)$  from the sum of  $(2m + 4n - 3p^2)$  and  $(m - n - p^2)$ . (3)

<b>26.</b> Simplify the following using laws of exponent.		(2)
(a) <u>3<sup>5</sup> X 10<sup>5</sup> X 25</u>	(b) 11 <sup>3</sup> X 5 <sup>3</sup>	
$3^7 \times 6^5$	121 x 5	

<b>27.</b> Find the order of rotational symmetry of the following figures.		(2)
(a) Order =	(b) Order =	
(c) Order =	(d) Order =	

<b>28.</b> Fill in the	e blanks:-
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3 D shapes	No of Faces	No of Edges	No of Vertices	Net
Cylinder				
Cone				
Triangular Prism				
Cube				

(4)

# **Activity Based:**

### (10 marks)

**29.** Construct the following with compass only and also write the steps of construction.

(a) Draw a line parallel to the line m at a distance of 4.5 cm. (3) Construction:-

m

Steps of construction:-

(b) Construct a triangle PQR wit PQ = 3.5cm, QR= 4.2cm, and angle Q =  $120^{\circ}$ . (3)

Construction:-

Steps of construction:-

- (c) Construct a triangle XYZ with YZ = 6cm, angle  $Y=60^{\circ}$  and angle  $Z=120^{\circ}$ . (3)
  - Construction:-

Steps of construction:-

**30.** count the number of cubes in the following figure. (1)



No of cubes = .....