પુના International School
Shree Swaminarayan Gurukul, Zundal

Name:	**Grade :8th ROLL NO-**
Date :	**Subject: Maths**
T.Sign :	**Marks: 80**

SECTION - A

(i)Choose correct option **[1 x 10 = 10]**

1. By selling 50 items, a shopkeeper lost the amount equal to the selling price of 10 items. His loss percent is

   a. 30/7 % b. 40/3 % c. 25/3 % d. 50/3 %

2. After allowing a discount of 15 % on the marked price of a pen-drive, it is sold for Rs 680. The marked price of the article is

   a. Rs 700 b. Rs 600 c. Rs 800 d. Rs 750

3. In a polynomial, the exponents of the variables are always

   a. integers b. non-positive integers

   c. non negative integers d. None

4. Which of the following is a binomial?

   a. 13XbXb b. $6b^2 + 7a + 2c$ c. $45 (b^2 + a)$ d. 13a X 3b X 5c

5. Volume of a cube is 216 cm^3, its surface area is

   a. 108 cm^2 b. 216 cm^2 c. 512 cm^2 d. 128 cm^2

6. A cube of side 4 cm is cut into 1 cm cubes. What is the ratio of the surface areas of the original cubes and cut-out cubes?

   a. 1:2 b. 1:3 c. 1:4 d. 1:6

7. In 3^n, n is known as

   a. base b. constant c. exponent d. variable

8. 5^{-2} can be written as

   a. 1/5 b. $1/5^2$ c. 5^2 d. -2/5

9. Both u and v directly with each other .When u is 10, v is 15, which of the following is not a possible pair of corresponding value of u and v ?

   a. 15 and 20 b. 2 and 3 c. 25 and 37.5 d. 16 and 24

10. Coefficient of y in the term $\frac{-y}{3}$ is

a. -1 b. -3 c. -1/3 d. 1/3

(ii) Fill the blank **[1 x 10 = 10]**

1. The product of two polynomials is a _____
2. The common factor method of factorization for a polynomial is based on _____ law.
3. If x y = 10, then x and y vary _____ with each other.
4. When the speed remain constant, the distance travelled is _____ proportion to the time
5. $a^{13} \times a^{-10}$ = _____
6. 100^{0} = _____
7. The standard form of 12345000000 is _____
8. Area of a rhombus = $\frac{1}{2}$ x product of _____
9. The product of two polynomials is a _____
10. _____ is a reduction on the marked price of the article.

(iii) Tell whether the statement is true or false: **[1 X 10 = 10]**

1. To calculate the growth of bacteria, if the rate of growth is known. The formula for calculation of amount in compound interest can be used.
2. C P = M P – Discount
3. The value of $(a + b)^2 + (a - b)^2$ is 4ab.
4. The coefficient of x^2 yz in the term $-19x^2yz$ is -19.
5. The area of any two faces of a cube is equal.
6. The area of any two faces of a cuboid is equal.
7. If d varies directly as t^2 , then we can write $dt^2 = k$, where k is some constant
8. If x varies inversely as y and when x = 6, y =8, then for x = 8 then for x =8 the value of y is 10.
9. The difference of squares of two consecutive numbers is their sum.
10. An equation is true for all the values of its variables.

(IV) Solve: Each carry one marks **[1X 10 = 10]**

1. Find the discount ,When M.P = Rs 625 and S P = Rs 562.50
2. Convert 7:3 in to percentage
3. Subtract: 4abc from 12abc
4. Find product: -4p, 7pq
5. If the area of a face of cube is 20 cm^2, then find the total surface area of the cube.
6. The volume of a cube is 343cm^2, find its surface area.
7. Evaluate: (i) 3^{-2}

8. Find the value of: $\left(3^0 + 4^{-1}\right) \times 2^2$

9. If the cost of 10 pencils is Rs 90. Find the cost of 19 pencils?

10. Factorize : 7x – 14

SECTION - B

Solve: Each carry two marks (Any Eight) **[2 X 8= 16]**

1. 72% of 25 students are good in mathematics. How many are not good in mathematics?

2. A football team won 10 matches out of the total number of matches they played. If their win percentage was 40, then how many matches did they play in all?

3 . Add the following: ab –bc, bc –ca, ca -ab

4 . Obtain the volume of rectangular boxes with the following length, breadth and height respectively: 5a, $3a^2$, $7a^4$

5 Find the product: $\left(a^2\right) \times \left(2a^{22}\right) \times \left(4a^{26}\right)$

6 Multiply the binomials: (2x+5) and (4x-3)

7 Multiply the binomials: (2x + 5) X (4x – 3)

8 Multiply the binomials: (2.5 l – 0.5m) X(2.5 l + 0.5m)

9 A man got 10% increase in his salary. If his new salary is Rs.1,54,000, find his original salary.

10 On Sunday 845 people went to the Zoo. On Monday only 169 people went. What is the percent decrease in the people visiting the Zoo on Monday?

SECTION -C

Solve: Each carry three marks (Eight) [3 X 8 = 24]1.

1. Kamala borrowed Rs.26, 400 from a Bank to buy a scooter at a rate of 15% p.a. compounded yearly. What amount will she pay at the end of 2 years and 4 months to clear the loan?

(Hint: Find A for 2 years with interest is compounded yearly and then find SI on the 2nd year amount for $\frac{4}{12}$ years).

2. Fabina borrows Rs.12,500 per annum for 3 years at simple interest and Radha borrows the same amount for the same time period at 10% per annum, compounded annually. Who pays more interest and by how much?

3. I borrows Rs.12, 000 from Jam shed at 6% per annum simple interest for 2 years. Had I borrowed this sum at 6% per annum compound interest, what extra amount would I have to pay?

4. Vasudevan invested Rs.60, 000 at an interest rate of 12% per annum compounded half yearly. What amount would he get:

(i) After 6 months?

(ii) after 1 year?

5. Find the product:

$$(5-2x)(3+x)$$

6. Find the product:

$$(x+7y)(7x-y)$$

7. Simplify:

$$(x^2-5)(x+5)+25$$

8. Simplify:

$$(a^2+5)(b^2+3)+5$$

9. Find the value of m for which $5^m \div 5^{-3} = 5^5$.

10 .Which of the following are in inverse proportion:

(i) The number of workers on a job and the time to complete the job.

(ii) The time taken for a journey and the distance travelled in a uniform speed.

(iii) Area of cultivated land and the crop harvested.

(iv) The time taken for a fixed journey and the speed of the vehicle.

(v) The population of a country and the area of land per person.

11 . A farmer has enough food to feed 20 animals in his cattle for 6 days. How long would the food last if there were 10 more animals in his cattle?

12 . Factorize the following expressions:

(I) $a^2+8a+16$ OR (i) $p^2-10p+25$

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