## **HOME ASSIGNMENT-2020**

**CLASS: NINE** 

## **MATHEMATICS (Chapter-01 to Chapter-04)**

## **PART-A: CREATIVE QUESTIONS**

Observe the stems and write down the answer of the following creative questions.

- 1. If M = 0.45, N = 0.1346 and  $f(x) = \frac{x-1}{x+1}$  then
  - a) Express the set of rational and irrational number in set builder method.

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b) Determine: M + N, MN and  $M \div N$ .

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- c) Show that,  $\frac{f(x) f(\frac{1}{x^2})}{1 + f(\frac{1}{x^2})} = \frac{x^3 1}{x + 1}$ .
- 2. If  $(m^2 + n^2)^2 = \sqrt[3]{125}$ ,  $(m^2 n^2)^2 = \sqrt[3]{64}$  and  $x^2 = 9 + 4\sqrt{5}$  then -

a) Resolve into factors:  $x^2 - 2(a + \frac{1}{a})x + 4$ .

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b) Prove that,  $16m^2n^2(m^4 + n^4) = 18$ .

- c) Find the value of  $\frac{x^{10} + 1}{x^5}$ .
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- 3. If  $M = xy^{a-1}$ ,  $N = xy^{b-1}$  and  $O = xy^{c-1}$  then
  - a) Solve:  $\log_x \frac{1}{324} = -4$ .

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b)  $(b-c)\log M + (c-a)\log N + (a-b)\log O = \text{What?}$ 

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c)  $(b+c)\log\frac{N}{Q} + (c+a)\log\frac{Q}{M} + (a+b)\log\frac{M}{N} = What?$ 

## PART-B: SHORT QUESTIONS

Write down the answer of the following questions in one word.

1) If  $\log_4 x = \frac{1}{2}$  then x = What?

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2) On which condition  $\log_x x = 1$ ?

3) If  $\log x = \frac{1}{2} \log y$  then what is the value of  $\log y^2$ ?

4) What is the log of 3 if the base  $3\sqrt{3}$ ?

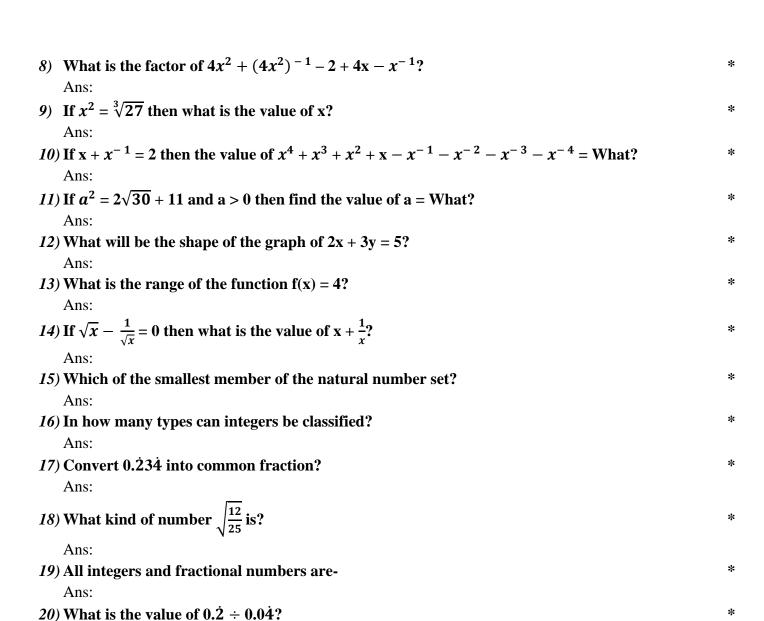
5)  $\log_4 2 \times \log_{\sqrt{3}} 27 =$ What?

6) If  $\frac{32}{(64)^x}$  = 8 then what is the value of x?

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- 7) If  $4^x 4^{x-1} = 24$  then  $(2x)^x =$ What?

Ans:



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