Cosmo School

Work Sheet – 03 (Higher Mathematics) for class – Nine (06.10.2020), Chapter- Five Exercise - 5.6, Equation

Creative Multiplication Choice Questions

Answer to the questions no. (1 – 2) on the basis of information given below:
The sum of the square of two positive numbers is 130 the product of the number is 63.

1. What is the sum of the numbers? [D.B.- 17]

a) 2 b) 7
c) 9 d) 16

2. What is the difference of the square of the number? [D.B.- 17]

a) 16 b) 32
c) 63 d) 67

3. Which one is a solution of $x^y = y^x$ and y = 2x? [B.B.- 17]

a) $(2, 4)$ b) $(4, 2)$
c) $(-4, 2)$ d) $(4, -2)$

4. $16^x = 64^y$ then $\frac{y}{x}$ = What? [S.B.- 16]

a) $\frac{1}{4}$ b) $\frac{2}{3}$
c) $\frac{3}{2}$ d) 4

5. If $x^y = y^x$ and x = 2y then which is the value of (x, y)? [J.B.- 16]

a) $(2, 4)$ b) $(4, 2)$
c) $(3, 1)$ d) $(1, 3)$

6. If $(27)^{xy} = 9^{y+1}$ and y = 2 then what will be the value of x?

a) -2 b) 0
c) 1 d) 3

7. What is the required solution of $x^y = y^x$ and x = 2y?

a) $(6, 3)$ b) $(8, 4)$
c) $(2, 1)$ d) $(4, 2)$

8. If $a^{x+2}.a^{2y+1} = a^{10}, (a \neq 1)$ then which of the following is correct relation?

a) $2x + y = 7$ b) $x + 2y = 7$
c) $x - 2y = 7$ d) $x = 2y - 7$

9. If $x^y = y^x$ and x = 2y then y = What?

a) 1 b) 2
c) 3 d) 4

10. If $4^x = 2^y$ and x = 2 what is the value of y?

a) -2 b) -4
c) 2 d) 4

11. If $4^{x+3y} = 16^{2x+3}$ and x = 4 then y = What?

a) -3 b) -1
c) 1 d) 6

12. If $y^x = 4$ and $y^2 = 2^x$ then x = What?

a) ± 2 b) ± 4
c) ± 1 d) ± 3

13. If $9^x = (27)^y$ then which of the following is true?

a) $x = y$ b) $3x = 2y$
c) $x^2 = y^3$ d) $2x = 3y$

14. If $8.2^{xy} = 4^y$ and y = 1 then x = What?

a) -1 b) $\frac{1}{2}$
c) 1 d) $\frac{3}{2}$

15. If $x^y = y^2$ and $y^{2y} = x^4$ (where $x \neq 1$) then y^2 = What?

a) -4 b) 4
c) 8 d) 16

16. If $18y^x - y^{2x} = 81$ and $3x = y^2$ then y^x = What?

a) -9 b) 3
c) 9 d) 27

17. If $9^x.3^{xy} = \frac{1}{27}$ then 2x + xy = What?

a) -9 b) -3
c) 3 d) 6

18. If $2^x + 3^y = 31$ and $2^x - 3^y = -23$ then (x, y) = What?

a) $(-2, 3)$ b) $(2, 3)$
c) $(-2, -3)$ d) $(2, -3)$

19. If $3^x.9^y = 81$ and 2x – y = 8 then —

i. $x + 2y = 4$
ii. $y = 2x - 8$
iii. $(x, y) = (4, 0)$

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

20. If $x^y = y^2$ and $y^{2y} = x^4 (x \neq 1)$ then -

i. $x^{y^2} = y^{2y}$

ii. $y = \pm 2$

iii. x will have 4 values.

Which one of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

Answer to the questions No. (21 - 23) on the basis of the basis of the information given below:

$\left.\begin{matrix} 2^x + 3^y = 31 \\ 2^x - 3^y = -23 \end{matrix}\right\}$ **is a system of indicial equations.**

21. What is the value of x in the system of equations?

a) 2 b) 3

c) 4 d) 6

22. What is the value of y?

a) 1 b) 2

c) 3 d) 4

23. What is the Solution of the system of equations?

a) $(3, 2)$ b) $(1, 2)$

c) $(2, 1)$ d) $(2, 3)$

Answer to the questions No. (24 - 26) on the basis of the basis of the information given below:

$\left.\begin{matrix} 2^x.3^y = 18 \\ 2^{2x}.3^y = 36 \end{matrix}\right\}$**is a system of indicial equations.**

24. If in 2^{nd} equation of the system if x = 1 then y = What?

a) 2 b) 3

c) 4 d) 6

25. Which value of x can be found from the system of equation?

a) 0 b) 1

c) 2 d) 4

26. Which is the solution of the system of equation, (x, y) = What?

a) $(2, 0)$ b) $(2, 1)$

c) $(1, 2)$ d) $(2, 2)$