

Q. If the coefficient of x in $\left(x^2 + \frac{\lambda}{c}\right)^5$ is 270, then λ is equal to

- (a) 6 (b) 3 (c) 4 (d) 5

Solution :

Here the question is wrong as there is no meaning of "c" in $\left(x^2 + \frac{\lambda}{c}\right)^5$

Hence co-efficient of x cannot be determined.

If instead of 'c', 'x' is taken then solution would be

$${}^5C_r (x^2)^{5-r} \left(\frac{\lambda}{x}\right)^r = x^1$$

$$\therefore 10 - 2r - r = -1$$

$$\therefore r = 3$$

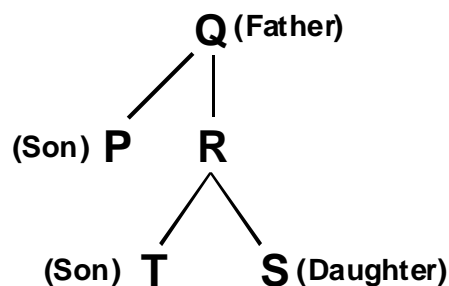
$$\text{So, } {}^5C_3 x^4 \frac{\lambda^3}{x^3} = 270$$

$$\therefore \lambda = 3$$

Q. Q is the father of R, P is the Son of Q, T is the Brother of S, S is the daughter of R. Who are the cousins of P ?

- (a) R and Q (b) S and T (c) S and Q (d) R and T

Solution :



P has no cousins. So, the data given is inadequate.

Hence the given question is wrong.

Q. The Middle term in the expansion of $\left(\frac{2x^2}{3} + \frac{3}{2x^2}\right)^{10}$ is

- (a) 250 (b) 254 (c) 252 (d) 251

In this question the middle term will be 252.

But according to BHU Answerkey Answer is 251 which is Incorrect Answerkey.

Solution :

Middle term of $(x + y)^n$ is ${}^n C_{n/2} x^{n/2} y^{n/2}$

$$\begin{aligned}\therefore \text{Middle term is } & {}^{10} C_5 \frac{(2)^5}{(3)^5} \times \frac{(3)^5}{(2)^5} \\ & = {}^{10} C_5 \\ & = 252\end{aligned}$$

Ans. 252

Q. If $x + iy = (1 + i)(1 + 2i)(1 + 3i)$. Then value of $x^2 + y^2$ is :

- (a) 100 (b) 25 (c) 50 (d) 0

In this question the value of $x^2 + y^2$ will be 100

But according to BHU Answerkey Answer is 50 which is Incorrect Answerkey.

Solution :

$$\begin{aligned}x + iy &= (1 + i)(1 + 2i)(1 + 3i) \\ &= (-1 + 3i)(1 + 3i) \\ &= -9 - 1\end{aligned}$$

$$X + iy = -10$$

On comparing $x = -10, y = 0$

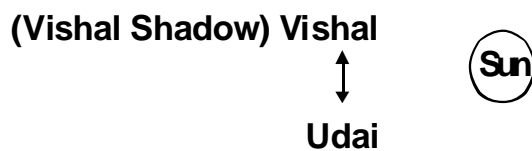
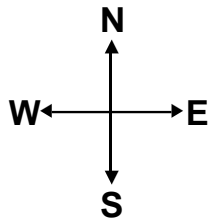
$$\therefore x^2 + y^2 = 100$$

Ans. 100

- Q.** One morning Udai and Vishal were talking to each other face to face at a crossing. If Vishal's Shadow was exactly to the left of Udai, which direction was Udai facing ?
- (a) South
 - (b) South-East
 - (c) North
 - (d) None of these

In this question the correct Answer is North
But according to BHU Answerkey Answer is South-East which is Incorrect Answerkey.

Solution :



∴ Udai is facing North.

Ans. North