

BOARD OF INTERMEDIATE & SECONDARY EDUCATION, SAHRAWAL

SUBJECT: MATH EXAM 2nd Annual 2022 CLASS: Inter P-I
 GROUP: I DATE: 21-12-22

P/S

(GENERAL INSTRUCTIONS FOR MARKING KEY)

$$a_n = a_1 + (n-1)d$$

$$a_n = 2 + (n-1)3 = 3n-1 \quad (1M)$$

n^{th} term in given HP

$$a_n = \frac{1}{3n-1} \quad (1M)$$

$${}^nP_4 : {}^{n-1}P_3 = 9:1$$

$$\frac{n!}{(n-4)!} / \frac{(n-1)!}{(n-4)!} = 9/1 \quad (1M)$$

$$\frac{n!}{(n-1)!} = 9$$

$$\frac{n(n-1)!}{(n-1)!} = 9$$

$$n = 9 \quad (1M)$$

(ix) no. of sides of polygon = $n = 8$

$$\text{no. of line segments} = {}^nC_2 = {}^8C_2$$

$$= 28 \quad (1M)$$

$$\text{no of diagonals} = {}^8C_2 - 8$$

$$= 20$$

$$(1M)$$

(x) For $n=1$

$$1 = 2 \left(1 - \frac{1}{2} \right)$$

$$1 = 2 \cdot \frac{1}{2} \quad \text{Formula is true for } n=1$$

$$1 = 1 \quad (1M)$$

For $n=2$

$$1 + \frac{1}{2} = 2 \left(1 - \frac{1}{4} \right)$$

$$\frac{3}{2} = \frac{3}{2} \quad (1M)$$

* Formula is true for $n=2$

* (Conclusion is necessary, otherwise deduct 1 mark) and two

(xi) Award 1 mark for

observations e.g. terms in the expansion is one greater than its exponent.

- The sum of exponents of a and x in each term of the expansion is equal to its index
- The exponent of a decreases from index to zero.

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تم نے درج بالا کے پروفیسر (اساتذہ) اور اساتذات کے حوالے سے مکمل طور پر تصدیق کر لی ہے۔ کسی قسم کی کوئی غلطی نہیں ہے۔

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