

SSLC MARCH 2017 -MATHEMATICS

1. Given sequence is 135,141,147,.....

Common difference=6

Let consecutive terms be beginning with f

$$\text{Sum of 25 consecutive terms} = \frac{25}{2}(2f+24 \times 6) = \frac{25}{2} \times 2(f+24 \times 3) = \frac{25}{2} \times 2(f+72) = 25 \times f + 25 \times 72$$

$$\text{SSLC MARCH 2017- ANSWERS- N.Sreekumar, Govt.Girls HSS, Kayamkulam} \\ = 25 \times f + 1800$$

$$\text{If it is 2016, } 25 \times f + 1800 = 2016 \Rightarrow 25 \times f = 2016 - 1800 \Rightarrow f = \frac{216}{25} \text{ (since f is not a natural number,}$$

2016 is not the sum of 25 consecutive terms of the sequence 135,141,147.....)

Aliter

This sequence consists of only odd numbers. Therefore

Sum of 25 odd numbers can never be equal to 2016. Since 2016 is an even number.

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2. Given that $P(x) = 2x^3 - 2x^2 - 8x + 8$ Also Given that $(x+2)$ is a factor and

$$\text{we know that } x^2 - 4 = (x+2)(x-2)$$

$$P(2) = 2 \times 2^3 - 2 \times 2^2 - 8 \times 2 + 8 = 16 - 8 - 16 + 8 = 0 \therefore (x-2) \text{ is also a factor,}$$

$$\therefore x^2 - 4 \text{ is a factor of } P(x)$$

$$3. \text{ Mean} = \frac{(38+43+24+42+33+46+29)}{7} = \frac{255}{7} = 36.43$$

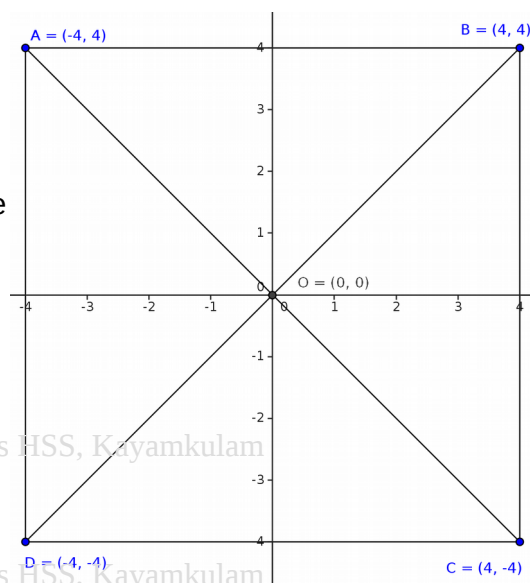
Write the data in ascending orders as 24, 29, 33, 38, 42, 43, 46

Median = Middle term = 38

4. Given that Diagonals Meet at $(0,0)$ and coordinates of one corner of the square is $(-4,4)$

a) \therefore Coordinates of the other corners are $(4,-4)$, $(4,4)$ and $(-4,-4)$

b) Length of the side of the square = 8 units



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