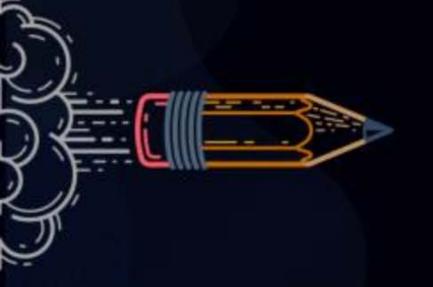
# PYQ Series

**CA Foundation** 



Lecture No- 13

Sequence & Series









PYQs of 5 Attempts





#### The number of terms of the series: $5 + 7 + 9 + \dots$ must be taken so that the sum may be 480 [July 2021]

$$n = 20$$
 $8 + 7 + 9 + - - = 480$ 
 $20(20+4) = 480$ 
 $0 = 5$ 
 $0 = 7 - 5 = 9 - 7 - 2$ 
 $0 = 20(20+4) = 480$ 





# If the sum of 'n' terms of an AP (Arithmetic Progression) is 2n², the fifth term is\_\_\_\_\_ [July 2021]

$$5n = 3n^{2}$$

$$\{n = 2n^{2} > 5n^{2} > 5n^{2}\}$$

$$t_5 = 5_5 - 5_4 = \frac{1}{2}(5)^2 - \frac{1}{2}(4)^2$$

$$= 50 - 32 = 18$$



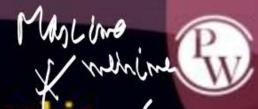
#### The nth terms of the series 3 [July 2021]

$$n^2 + 2n (1)^2 + 2(1) = 3$$

$$n^2 + n + 1$$
  $|^2 + |+|-|$ 

$$D$$
  $n^3 + 2$ 

$$p n^3 + 2 |^3 + 2 = 3$$





The sum of square of any real positive quantity and its reciprocal is never less that  $(\chi + \bot)^2 - [July 2021]$ 

 $\left(\frac{x}{x} + \frac{1}{x}\right) \approx 4$ 



$$= (35) 35$$

$$= (0.2+5)^{2}$$

$$= (0.2+5)^{2}$$

$$= (0.5+5)^{2}$$

$$= (1+1)^{2} (5+\frac{3}{2}) = (3.5)^{2} = (35)^{2}$$

$$= (35)^{3}$$



### If the sum and products of three numbers in G.P. are 7 and 8 respectively, then 4th term of the series is

$$\frac{c}{s} = \frac{2s-1/(s-2)-1}{2s^2(s-2)-1(s-2)-2}$$

Fourth term = 
$$ax^2$$

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# The sum of series $7 + 14 + 21 + \cdots$ to 17th term is:

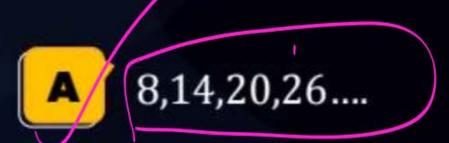
[Dec 2021]

$$S_{17} = \frac{17}{2}(2x7 + (171))$$
 $S_{17} = \frac{17}{2}(14x)$ 

#### The sum of first n terms of an AP is $3n^2 + 5n$ . The series is:







$$5h = 3n^{2} + 5n$$

$$t_{1} = 5_{1} = 3(1^{2}) + 5(1) - 8$$

$$t_{2} = 5_{3} - 5_{1} = (3(2^{2}) + 5(2)) - 3(13^{2} + 5(1))$$

$$= 22 - 8 = 14$$

$$t_{3} = 5_{3} - 5_{2} = (3(3^{2}) + 5(3)) - (3(2^{2}) + 5(2))$$

$$= 21 + 15 - 22 = 20$$



### The largest value of n for which $\frac{1}{2} + \frac{1}{2^2} + \cdots + \frac{1}{2^n} < 0.998$ is.....



[Dec 2021]

B 
$$6$$
  $(0.5)=0.0019.2000$ 

$$(0.5)^{8} = 0.00397000$$
  $= 1 - (2)^{9} = 1 - (2)^{9} = 1 - (2)^{9}$ 

Pw

Q.9

If the nth term of the arithmetic progression 9, 7, 5...... is same as the nth term of the arithmetic progression 15, 12, 9......, then n will be

- **A** 7
- **B** 9
- C 15
- D 11

Q 
$$\frac{1}{\sqrt{5}} = \frac{1}{\sqrt{5}} + \frac{1}{\sqrt{5}} = \frac{1}{\sqrt{5}} + \frac{1}{\sqrt{5}} = \frac{1}{\sqrt{5}} + \frac{1}{\sqrt{5}} = \frac{1}{\sqrt{5}} + \frac{1}{\sqrt{5}} = \frac$$



### In a geometric progression, the second term is 12 and the sixth term is 192. Find the 11<sup>th</sup> term.



$$\frac{2}{2} = \frac{2}{2} = \frac{2}{6}$$

$$\frac{2}{2} = \frac{2}$$

[June 2022] 20=12-0 Q86-1=192 =) Q 8 5 = 192 D Divide @ ty D



# The first and last terms of an arithmetic progression are 5 and 905. Sum of the terms is 45, 955. The number of terms is



[June 2022]



### The sum of first eight terms of geometric progression is five times the sum of the first four terms. The common ratio is



176

[June 2022]



$$88-1 = (84)^{2}-(1)^{2} = 5 (84+1) = 5 (84+1)$$

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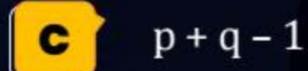


[Dec 2022]



### If $p^{th}$ term of an AP is q and its $q^{th}$ term is p, when what will be the value of $(p + q)^{th}$ term?

0



=> a+(p-1)(-1)-a=> a=p-1+9-1





#### In a G.P. = 5th term is 27 and 8th term is 729. Find its 11th term.

[Dec 2022]

$$\frac{1}{2} = \frac{1}{2} = \frac{1}$$



# If 9<sup>th</sup> and 19<sup>th</sup> term of an Arithmetic Progression are 35 and 75 respectively then its $20^{th}$ term is $\Rightarrow t_{20} = t_{19} + 0 \Rightarrow d = t_{20} - t_{19}$ [June 2023]

A 78

**B** 79

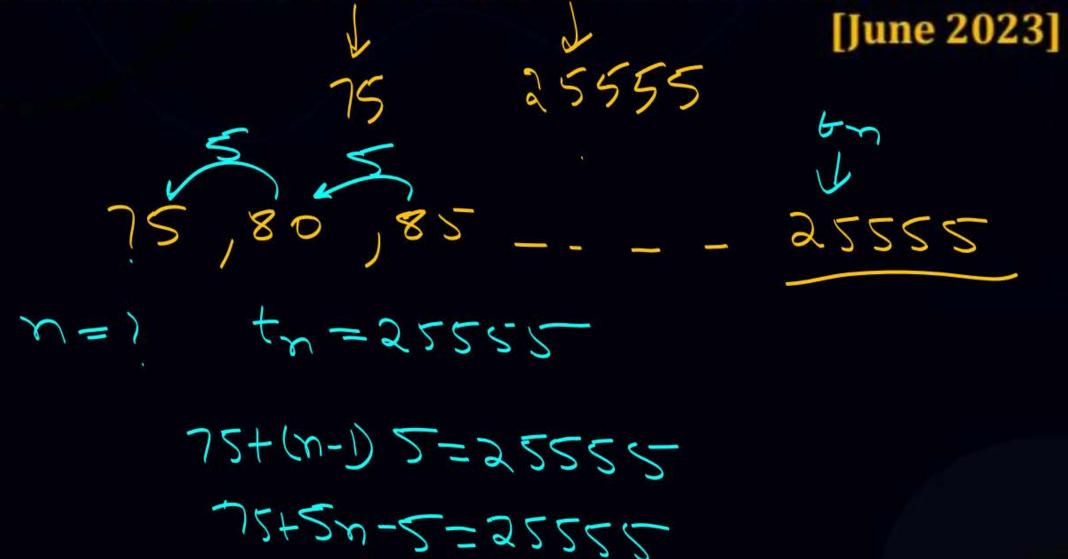
**C** 80

D 81

tq = a + (q-1)d = 35 - 40 $t_{q} = a + (19-1)d = 75 - 40$ 



#### How many numbers between 74 and 25,556 are divisible by 5?



5090

5097

5095



## If $4^{th}$ , $7^{th}$ and $10^{th}$ terms of a Geometric Progressions are p, q and r, respectively, then

[June 2023]

$$p^2 = q^2 + r^2$$

$$p^2 = qr$$

$$q^2 = pr$$

$$pqr + pq + 1 = 0$$

$$Q^{2} = (0.8)^{2} = 0.28$$
 $Q^{2} = (0.8)^{2} = 0.28$ 
 $Q^{2} = 0.8$ 
 $Q^$ 

