

QUESTION BANK

CLASS : X

SUBJECT : MATHEMATICS

TOPIC : ARITHMETIC

PROGRESSION

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INSTRUCTIONS



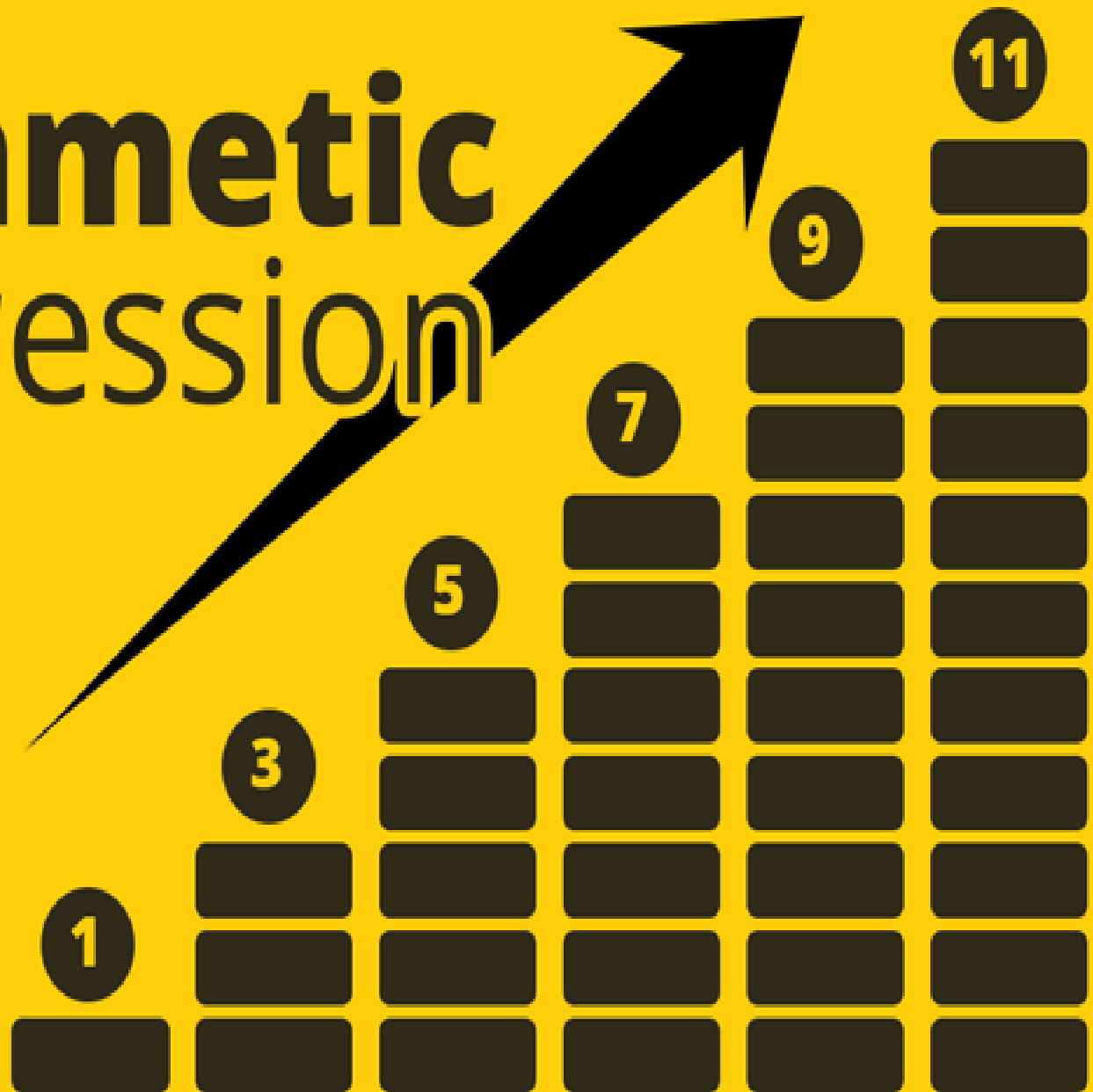
- ❖ In this Question Bank we are discussing questions related to **Arithmetic Progression**.
- ❖ For solution of each question click on the button '**Solution**'.
- ❖ For next question click on the button '**Next**'



OBJECTIVES

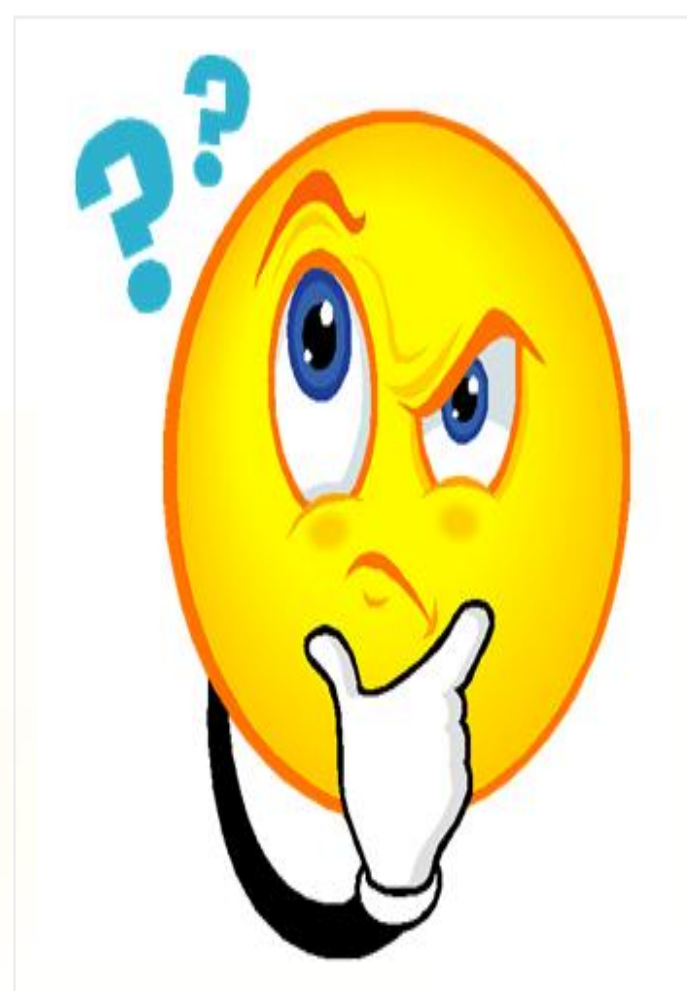
- ❑ This is a self learning material which includes questions from the chapter 'Arithmetic Progression'. By this student can workout problems and improve computational ability.
- ❑ The Question Bank is digital, so technical knowledge can also be improved.
- ❑ Student can do problem by himself and for help there is 'solution' link.

Arithmetic Progression



QUESTION 1

An arithmetic sequence has fourth term equal to 17 and the sum of its first 10 terms is 215. Find the first term and common difference of the sequence.



Next

solution

QUESTION

2

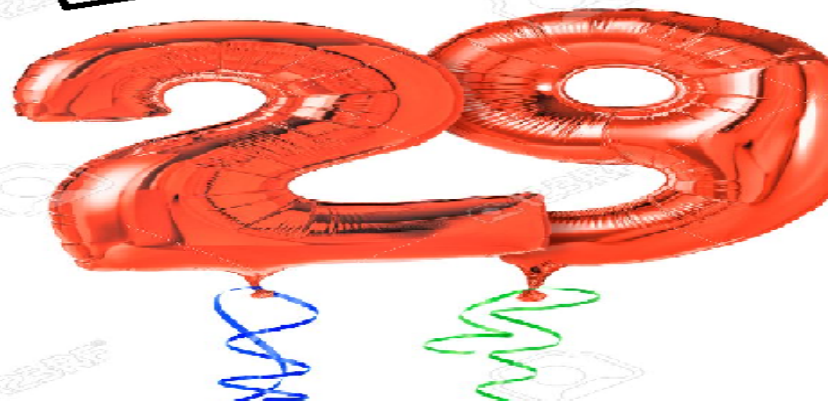
If 9th term of an A.P is zero, prove that its 29th term is double the 19th term.

I am 9th term of the AP.



WHO ARE YOU?

you don't know me? I have a relation with you.



Next

Solution

QUESTION 3

Find the sum of the series

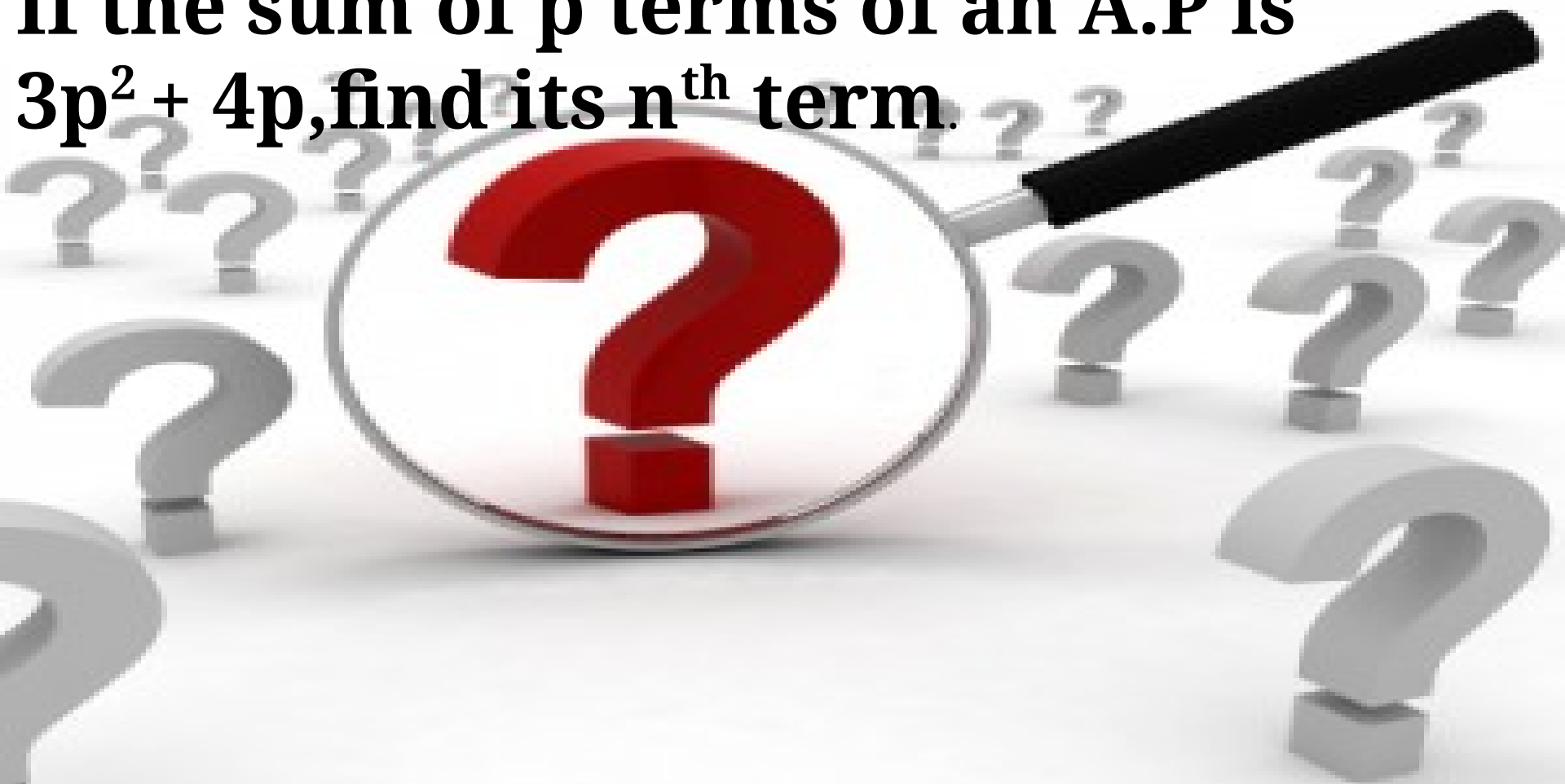
$$\begin{array}{c} \textcircled{51} + \textcircled{50} + \textcircled{49} + \textcircled{} + \cdots + \textcircled{} + \textcircled{21} \end{array}$$

Next

Solution

QUESTION 4

If the sum of p terms of an A.P is $3p^2 + 4p$, find its n^{th} term.



[Next](#)

[Solution](#)

QUESTION 5

If 4, X, 16 are three consecutive terms of an A.P. What is the value of X?



Solution

QUESTION 6

If $8 - k$, $2k + 4$, $4k + 2$ are three consecutive terms of an A.P. what is the value of k?

Next

Solution

QUESTION 7



Help me to find how many numbers between 100 and 400 are exactly divisible by 9?

Next

Solution

QUESTION 8

I got a job with starting salary 15000 per month. I will get an increment of 100 per month. What will be my salary after 20 months?



[Next](#)

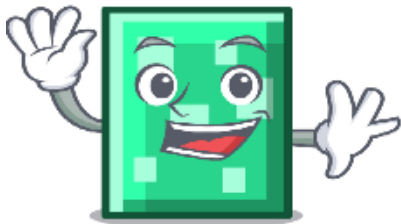
[Solution](#)

QUESTION 9

The sum of interior angles of



is 180°



is 360°



is 540°

Assuming this pattern continues, find the sum of interior angles of a dodecagon (12 sides).

Next

Solution

QUESTION 10

An auditorium has 20 seats on the first row, 24 seats on the second row, 28 seats on the third row, and so on and has 30 rows of seats. How many seats are in the theatre ?



[Next](#)

[Solution](#)

QUESTION 11

In a train there are 125 passengers in the first carriage, 150 passengers in second carriage and 175 passengers in the third carriage, so on in arithmetic sequence.

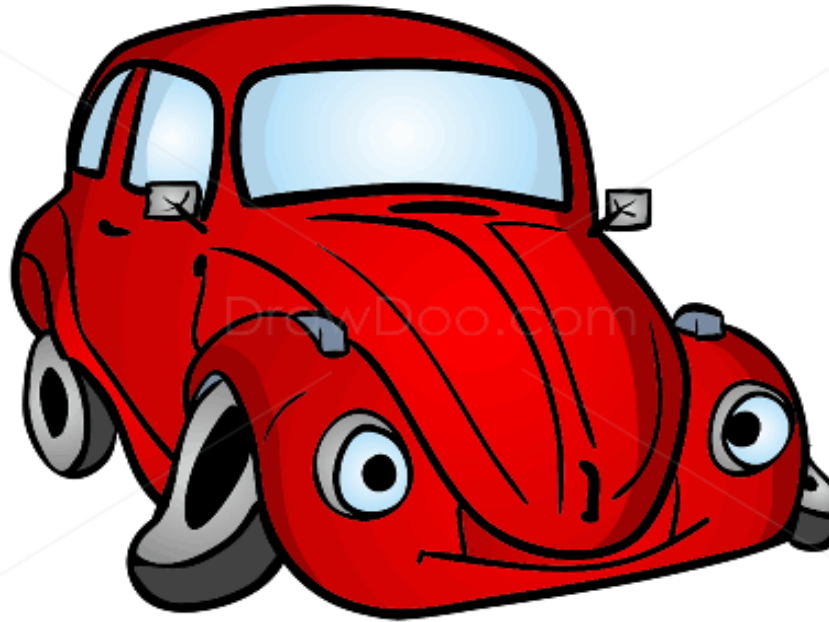


What is the total number of passengers in the first 7 carriages?

Next

Solution

QUESTION 12



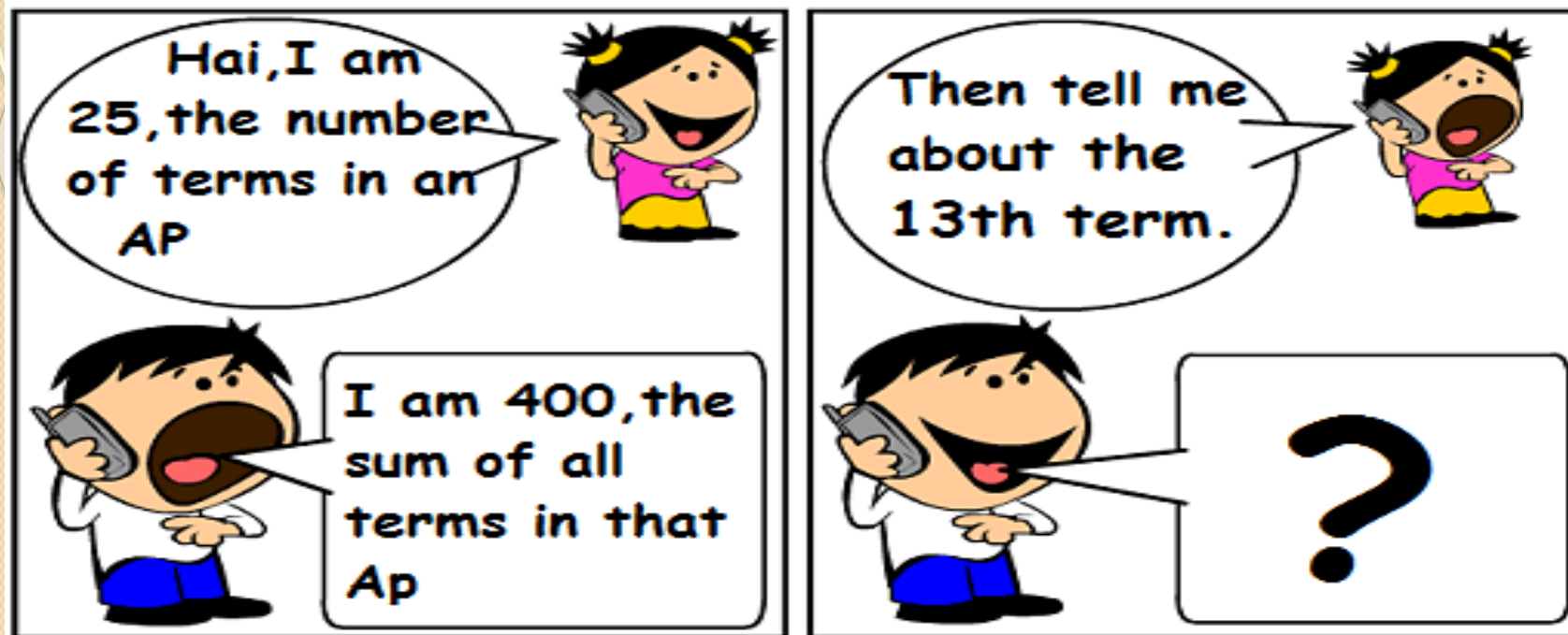
A car travels 300 m in the first minute, 420 m in the next minute, 540 m in the third minute, and so on in an arithmetic sequence.

What is the total distance the car travels in 5 minutes?

Next

Solution

QUESTION 13



Find the 13th term of this AP?

Next

Solution

QUESTION 14

There are 130 students in grade one, 210 students in grade two and 290 students in grade three in a primary school. Suppose that the pattern continues, then what is the total number of students in the primary school (there are 6 grades)?



Nex

t

Solution

QUESTION

15



After knee surgery, your trainer tells you to return to your jogging program slowly. He suggest jogging for 12 minutes each day for the first week. Each week thereafter, he suggests that you increase that time by 6 minutes per day.

How many week will it be before you are up to jogging 60 minutes per day?

Next

Solution

QUESTION 16

A writer wrote 890 words on the first day, 760 words on the second day and 630 words on the third day and so on in an arithmetic sequence. How many words did the writer write in a week?

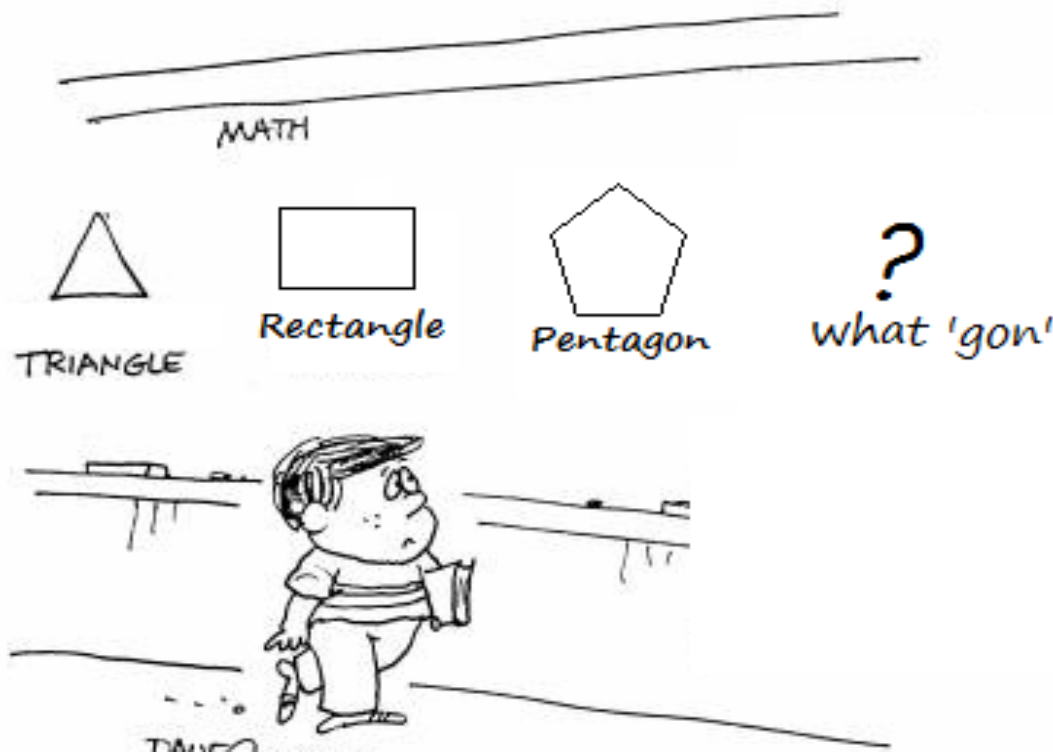


[Next](#)

[Solution](#)

QUESTION 17

The interior angles of a polygon are in AP. The smallest angle is 120° and the common difference is 5° . Find the number of sides of the polygon.



Nex

t

Solution

QUESTION

18

A bag of cat food weighs 18 pounds. Each day, the cats are feed 0.5 pound of food. How much does the bag of cat food weigh after 30 days?



Nex

t

Solution

QUESTION 19

Find my position?



Find the position of 248 in the AP
8,11,14.....?

Nex

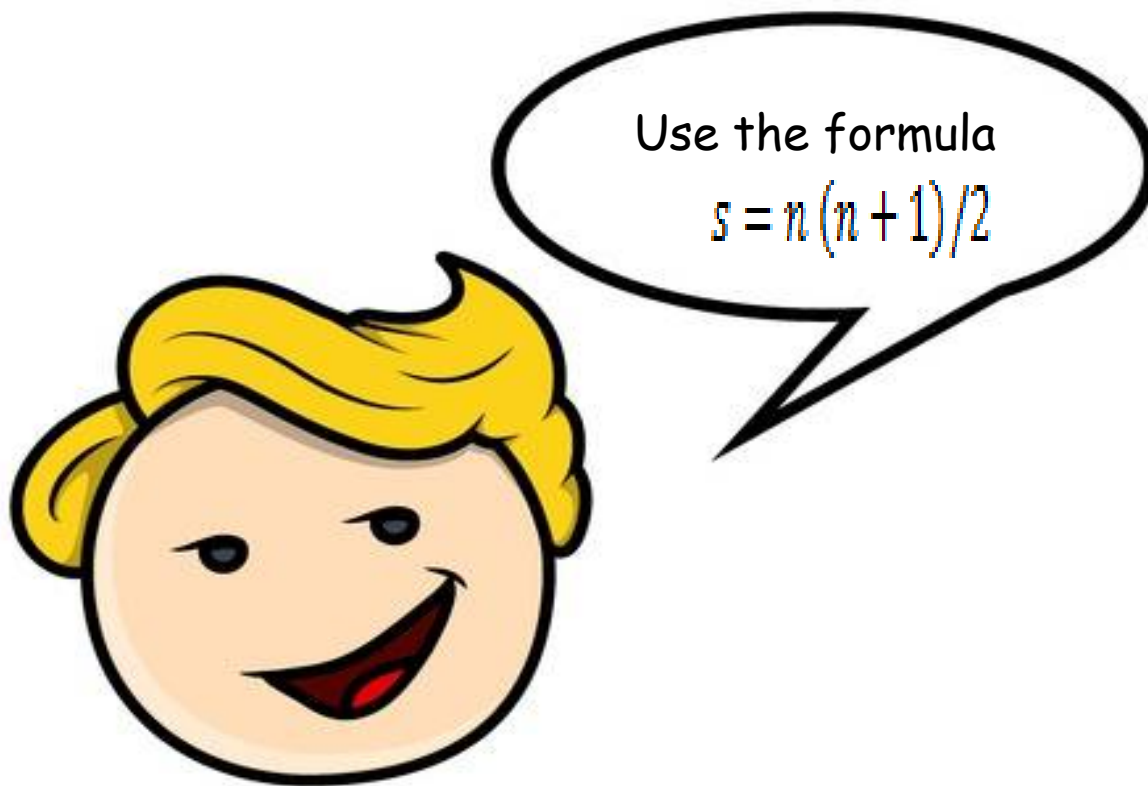
t

Solution

QUESTION

20

Find the sum of multiples of 8 up to 800?



Nex

t

Solution

QUESTION

21

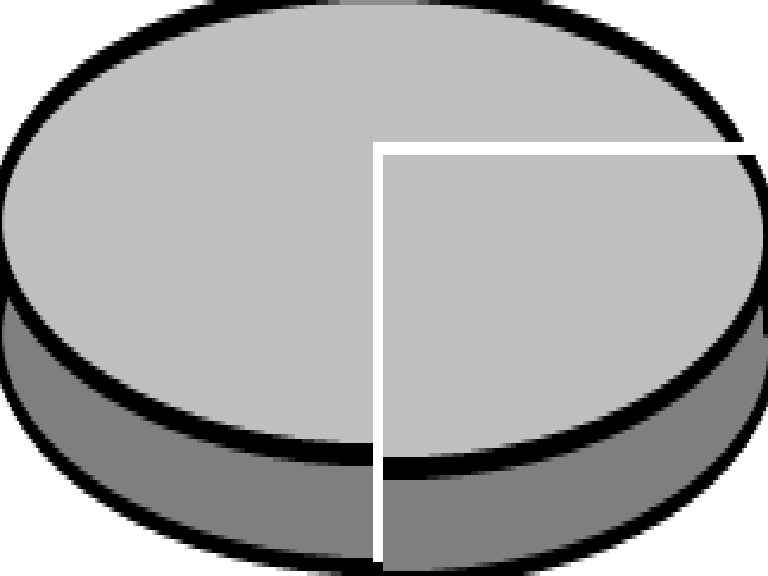
An 81 meter rope is cut into n pieces of increasing lengths that form an arithmetic sequence with a common difference of d meters. Given that the lengths of the shortest and longest pieces are 1.5 meter and 7.5 meters respectively, find the values of n and d ?

Nex

t



Solution



QUESTION 22

A circular disc is cut into 12 sectors whose areas are in AP. The angle of the largest sector is twice the angle of the smallest sector. Find size of the smallest sector.

Nex

t

Solution

QUESTION

23



Here what is the value of n ?

Nex

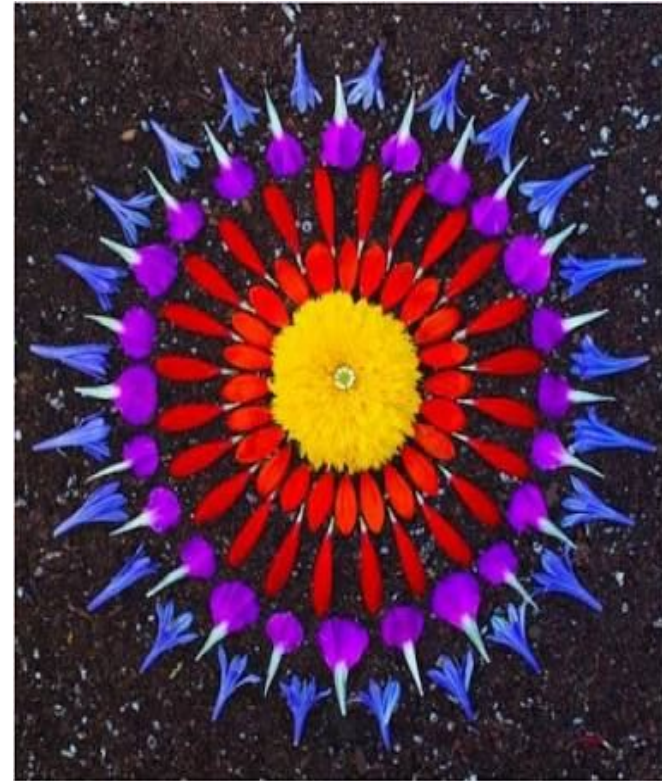
t

Solution

QUESTION

24

In each row of a pookalam, flowers are arranged in a sequence $23, 21, 19, \dots$. Last row contains 11 flowers. Then how many rows are there?



Nex

t

Solution

QUESTION

25

The houses in a row are numbered consecutively from 1 to 49. show that there exist value of 'x' such that sum of numbers of houses preceding the house numbered 'x' is equal to the sum of numbers of house following 'x'.



Nex

t

Solution

Thank You

