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Question #1

(a) 3, 9, 21, 39, 63, 93.

$$9 - 3 = 6$$

$$21 - 9 = 12$$

$$39 - 21 = 18$$

$$63 - 39 = 24$$

However, difference is increasing 6 times consecutively. Therefore by adding "30" in "63" we will attain answer.

$$63 + 30 = 93$$

Therefore the missing term is "93"

(b) 1, 5, 11, 21, 37, ~~59~~.

$$5 - 1 = 4$$

$$11 - 5 = 6$$

$$21 - 11 = 10$$

$$37 - 21 = 16$$

As the minimum difference is "four" while maximum difference is "16" however by adding "22" in "37" we can attain the missing term

$$37 + 22 = 59 \text{ Answer.}$$

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(c) 5, 16, 29, 46, 65, 88, 117.

$$16 - 5 = 11$$

$$29 - 16 = 13$$

$$46 - 29 = 17$$

$$65 - 46 = 19$$

$$88 - 65 = 23$$

As prime numbers are starting from "11" here, However, in this series the difference between all terms is prime number. Therefore, next prime number is "29" - hence by adding "23" in 88, we can attain the missing term.

$$88 + 29 = 117$$

Thus the missing term is 117.

(d) 1, 3, 4, 9, 27, 36, 243, 729, 972

$$1 \times 1 = 1$$

$$1 \times 3 = 3$$

$$1 + 3 = 4$$

$$3 \times 3 = 9$$

$$9 \times 3 = 27$$

$$9 \times 4 = 36$$

$$243 \times 3 = 729$$

By adding this triplet with

$$243 + 729 = 972$$

we get - However missing value is "729"

c)

A, B, C, D and E sitting on the bench.

"A" is sitting next to "B" while

"C" is sitting next to "D"

"D" is not next to "E"

Who is on left end of Bench = ?

Solution:

"A" is right of "B" and "E"

"A" and "C" are sitting

together.

Position of "A" = ?

The position of "A" is left of "D".

while "D" is on the left side of the Bench

Because "D" is not next to "C".

D-

A's son is "B"

"C" is wife of "B"

while "D" is sister of

"C"

"C" is married to "E"

"E" is Brother of "D"

Therefore, "D" is daughter

in law of "A"

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As, "B" is Brother of "E" and
Son of "A", they both
are.

Question #2

Father is aged three times
more than his son Rashid.

$$\text{Father's age} = 3x$$

$$x + 3x = 4x$$

$$\text{Rashid's age} = x + 8$$

$$\text{Father's age} = 4x + 8$$

After 8 years, father would
be two and a half times
Rashid's age

$$4x + 8 = 2.5(x + 8)$$

By collecting the values

$$4x - 2.5x = 20 - 8$$

$$1.5 = 12$$

$$x = 8$$

After "8" years for now

as current age is 8.

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it would be "16" year.

current age of father is 32

$$\text{Rashid} = 8 + 16 = 24$$

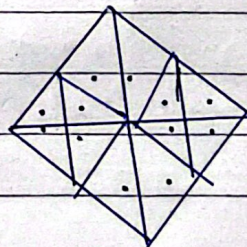
$$\text{Father} = 32 + 16 = 48$$

Ratio

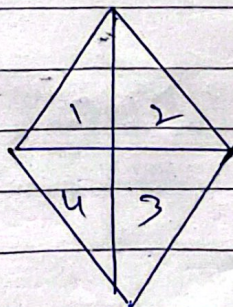
$$\frac{\text{Father's age}}{\text{Rashid's age}} = \frac{48}{24} = 2$$

However, Father's age will be two times of Rashid's age.

D- Total numbers of triangle in followin image



(9)



in this polygon when we divide it "4" times these are four

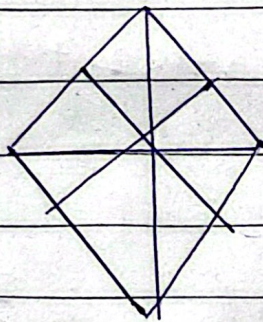
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triangles ,

while .

further when we divide
it by drawing hypotenuse



then each triangle further
divides in to ~~three~~ ~~four~~ triangles
four

~~4 x 4~~

4 x 4 = 16 . Answer

therefore, there are "16"
triangles.

28 Total
sum again