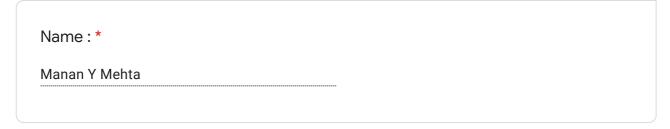
The Brigade School - Revision Test

Total points 9/10 (?)

Std: 10 Mathematics **Arithmetic Progression**

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0 of 0 points





Answer the following Questions: 9 of 10 points

Question 1: (10 Marks)

X a) How many terms are there in the A.P. 203, 210, 217,, 497? [3] 2/3

```
tn = a+(n-1)d
497=203+(n-1)7
294/7=n-1
42=n-1
n=42
```

Thus, the A.P. has 42 terms.

Feedback

```
a = 203, d = 210 - 203 = 7 and tn = 497
tn = a + (n - 1)d
497 = 203 + (n-1) \times 7 ----- (1m)
497 - 203 = (n-1) x 7
294 / 7 = n - 1 ----- (1m)
42 = n-1
therefor n = 43
There are 43 terms in the given AP ----- (1m)
```

3/3

```
S=(n/2)[2a+(n-1)d]
S=(14/2)[(2 \times 24)+(14-1)x-3]
S=7[(48 + 13 x - 3)]
S=7(48 - 39)
S=7 \times 9
S = 63
```

Thus, the sum is 63.

Feedback

```
n = 14, a = 24 and d = 21 - 24 = -3
S n = n/2 [2a + (n-1)d]
S 14 = 14/2 [2 \times 24 + (14-1) \times -3] -----(1 m)
= 7 [ 48 + - 39 ] -----( 1 m)
= 7 \times 9
S14 = 63
Sum of first 14 terms of the given A.P. is 63 ----- (1 m)
```

✓ c) Which term of the A.P. 21, 24, 27, is 36 more than its Eighth term?4/4 [4]

8th term is, tn=a+(n-1)d $=21+(8-1) \times 3$ $= 21 + 7 \times 3$ = 21 + 21= 42 Now, 42 + 36 = 78tn = a + (n - 1) x d $78 = 21 + (n-1) \times 3$ (78 - 21)/3 = n-119= n-1

Thus, it is 20.

n = 20

Feedback

```
a = 21, d = 24 - 21 = 3
given that, t n = t 8 + 36
ie, a + (n-1)d = a + 7 d + 36 -----(1 m)
21 + (n-1) \times 3 = 21 + 7 \times 3 + 36 ----(1 m)
(n-1) \times 3 = 21 + 21 + 36 - 21
n - 1 = 57/3 -----(1 m)
n = 19 + 1 = 20
20th term of the given A.P. is 36 more than it's 8th term -----(1 m)
```

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