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MAT 101 Assignment

1. If the sum of 3 numbers in an A.P is 18, the sum of their squares is 206, find the numbers.

a+a+d+a+d+d = 18

3a +3d =18

a+d =6

a**2** + (a+d)**2**  +2+(a+d+d)**2** = 206

a**2** + 6**2** +(6+d)**2**  =206

a**2** + 36 +36+12d+d**2** =206

a**2** +72+12d+d**2** =206

a**2** +12d+d**2**  = 134

a+d= 6

a=-1, d=7

a= 1, d=-7

-1, 6, 13

1. Find 3 numbers in GP whose sum is 28 and whose product is 512

Let the 3 numbers be a,ar,ar**2**

Where r is the common ratio

=a+ar+ar**2** =28 and a³r³= 512

ar=8

=a +ar**2** =20

8r**2** -20r+8=8=0

=r=2 , r=21

If r =2, a = 4

Therefore the three numbers are 4,8,16