Idara Etuk MAT 101 C/O

17/Eng02/025

(1) $a + a + d + a + d + d = 18$

$3a + 3d = 18$

$a + d = 6$,

$a^2 + (a+d)^2 + (a+d+d)^2 = 206$

$a^2 + 6^2 + (6+d)^2 = 206$

$a^2 + 36 + 36 + 12d + d^2 = 206$

$a^2 + 72 + 12d + d^2 = 206$

$a^2 + 12d + d^2 = 134$

$a + d = 6$

$a = -1, d = 7$

$a = 13, d = -7$

$-1, 6, 13$

(2) Let the numbers be a, ar, ar^2

r is the common ratio.

$a + ar + ar^2 = 28$ and $a^3r^3 = 512$

$ar = 8 \Rightarrow a + ar^2 = 20$

$\Rightarrow 8r^2 - 20r + 8 = 0$

$\Rightarrow r = 2, r = 1/2$

If $r = 2$, $a = 4$

$a = 4$ $ar = 4(2) = 8$ $ar^2 = 4(2)^2 = 16$

$\therefore$ The 3 numbers $\Rightarrow 4, 8, 16$ #