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Interact, engage and perform

Arithmetic Progression

| Past Paper Question | OCR C2 June 2013 Q6(i)


1st experiment : 6g
2nd experiment : 7.8g
Amounts form an arithmetic progression

$$a, a+d, a+2d, a+3d, a+4d, \dots$$

where the n^{th} term, $u_n = a + (n-1)d$

$$S_n = \frac{n}{2} [2a + (n-1)d]$$

Total amount of chemical for 30 experiments = $6 + \underbrace{7.8}_{d=1.8} + \dots + \overset{\text{30th term}}{L}$

$$= S_{30}$$
$$= \frac{30}{2} [2(6) + 29(1.8)]$$
$$= 963\text{g}$$


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