Problem 16

a_0 $\qquad$ b_0

$a_1 = a_0 \cdot r$ $\qquad$ $b_1 = b_0 + r$

$a_2 = a_0 \cdot r^2$ $\qquad$ $b_2 = b_0 + 2r$

$$\begin{cases} a_0 + b_0 = 7 & (1) \\ a_0 r + b_0 + r = 26 & (2) \\ a_0 r^2 + b_0 + 2r = 90 & (3) \end{cases}$$

$(2)-(1)$ $\quad a_0 r - a_0 + r = 19 \implies a_0(r-1) = 19 - r$

$(3)-(2)$ $\quad a_0 r^2 - a_0 + 2r = 83$ $\qquad a_0 = \dfrac{19-r}{r-1}$

$$\frac{19-r}{r-1}(r^2-1) + 2r = 83 \implies r^2 - 20r + 64 = 0 \begin{cases} r_1 = 16 \\ r_2 = \boxed{4} \end{cases}$$

ANSWER : B

Problem 18

$37 \cdot 4 = 148$ $\qquad$ $37 \cdot 13 = 481$

$37 \cdot 5 = 185$ $\qquad$ $37 \cdot 14 = 518$

$37 \cdot 6 = 222$

$37 \cdot 7 = 259$

$37 \cdot 8 = 296$

$37 \cdot 9 = 333$

$37 \cdot 10 = 370$

$37 \cdot 11 = 407$

$37 \cdot 12 = 444$

C

ANSWER : B