

30 (c)  $\frac{b_n}{b_{n-1}} = \frac{b^{a_n}}{b^{a_{n-1}}} = b^{a_n - a_{n-1}} = 2$

. n קוטר למה  $a_n - a_{n-1} = d$  כי קבוע זה קבוע לכל n

לכן קבוע זה  $a_n$  קוטר.

(d)  $\begin{cases} a_1 + a_2 + \dots + a_8 = 19 \\ b^{a_8} = b^3 \sqrt{b} = b^{3.5} \end{cases}$

$\begin{cases} \frac{8}{2} [2a_1 + 7d] = 19 \\ a_8 = 3.5 \end{cases}$

$\begin{cases} 2a_1 + 7d = 4.75 \\ a_1 + 8d = 3.5 \cdot 1/2 \end{cases}$

$\begin{cases} 2a_1 + 7d = 4.75 \\ 2a_1 + 16d = 7 \end{cases}$

$\begin{aligned} -9d &= -2.25 \\ d &= 0.25 \\ a_1 &= 1.5 \end{aligned}$

$8 = b_1 = b^{a_1} \rightarrow 8 = b^{1.5}$   
 $\boxed{b=4}$

$5 \sqrt{2} = b_n = 4^{a_n} \rightarrow 2^{9.5} = 2^{2a_n} = 2^{2(1.5 + 0.25(n-1))}$

$9.5 = 2(1.5 + 0.25n - 0.25)$   
 $\neq = 0.5n$   
 $\boxed{n=14}$