. The mean of a set of numbers is $\bar{X}$. If each number is divided by 3, then the new mean is

(a) $\bar{X}$ (b) $\bar{X}+3$

(c) $3\bar{X}$ (d) $\frac{\bar{X}}{3}$

(b) The required AM is

$$\bar{X} = \frac{1+2+2^2+2^3+\cdots+2^n}{n+1}$$

$$= \frac{\left(2^{n+1}-1\right)}{(n+1)(2-1)} = \frac{2^{n+1}-1}{n+1}$$