



$$(iv) a_n = \frac{3n-2}{5}$$

Here, the n^{th} term is given by the above expression. So, to find the first term we use, $n = 1$, we get,

$$\begin{aligned} a_1 &= \frac{3(1)-2}{5} \\ &= \frac{1}{5} \end{aligned}$$

Similarly, we find the other four terms,

Second term ($n = 2$),

$$\begin{aligned} a_2 &= \frac{3(2)-2}{5} \\ &= \frac{6-2}{5} \\ &= \frac{4}{5} \end{aligned}$$

Third term ($n = 3$),

$$\begin{aligned} a_3 &= \frac{3(3)-2}{5} \\ &= \frac{9-2}{5} \\ &= \frac{7}{5} \end{aligned}$$

Fourth term ($n = 4$),

$$\begin{aligned} a_4 &= \frac{3(4)-2}{5} \\ &= \frac{12-2}{5} \\ &= \frac{10}{5} \\ &= 2 \end{aligned}$$

Fifth term ($n = 5$),

$$\begin{aligned} a_5 &= \frac{3(5)-2}{5} \\ &= \frac{15-2}{5} \\ &= \frac{13}{5} \end{aligned}$$

Therefore, the first five terms for the given sequence are $a_1 = \frac{1}{5}, a_2 = \frac{4}{5}, a_3 = \frac{7}{5}, a_4 = 2, a_5 = \frac{13}{5}$.

$$(v) a_n = (-1)^n \cdot 2^n$$

Here, the n^{th} term is given by the above expression. So, to find the first term we use $n = 1$, we get,

$$\begin{aligned} a_1 &= (-1)^1 \cdot 2^1 \\ &= (-1) \cdot 2 \\ &= -2 \end{aligned}$$

Similarly, we find the other four terms,

Second term ($n = 2$),

$$\begin{aligned}a_2 &= (-1)^2 \cdot 2^2 \\&= 1 \cdot 4 \\&= 4\end{aligned}$$

Third term ($n = 3$),

$$\begin{aligned}a_3 &= (-1)^3 \cdot 2^3 \\&= (-1) \cdot 8 \\&= -8\end{aligned}$$

Fourth term ($n = 4$),

$$\begin{aligned}a_4 &= (-1)^4 \cdot 2^4 \\&= 1 \cdot 16 \\&= 16\end{aligned}$$

Fifth term ($n = 5$),

$$\begin{aligned}a_5 &= (-1)^5 \cdot 2^5 \\&= (-1) \cdot 32 \\&= -32\end{aligned}$$

Therefore, the first five terms of the given A.P are $a_1 = -2, a_2 = 4, a_3 = -8, a_4 = 16, a_5 = -32$.

***** END *****