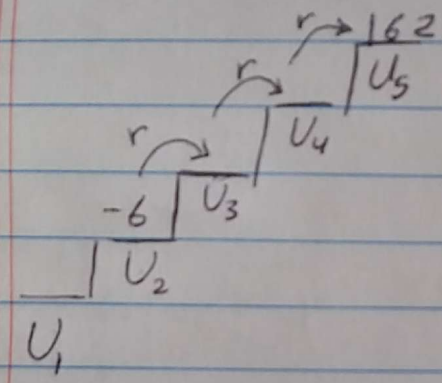
## G. Seq

- $U_2 = -6$ , $U_5 = 162$ , $U_n = ?$




$$162 = -6(r^3)$$
$$-3 = r$$

If $r = -3$ , $U_1 = \frac{U_2}{r}$

$$= \frac{-6}{-3} = 2$$

$$\therefore U_n = U_1 r^{n-1}$$
$$U_n = 2(-3)^{n-1}$$

## A. Seq

- $U_3 = 8$ , $U_8 = -17$ , $U_n = ?$

$$\underset{}{\quad} \overset{d}{\quad} \overset{d}{\quad} \underset{U_3}{8} \overset{+d}{\quad} \overset{+d}{\quad} \overset{+d}{\quad} \overset{+d}{\quad} \overset{+d}{\quad} \underset{U_8}{17}$$

$$\therefore U_8 = U_3 + 5d$$
$$-17 = 8 + 5d$$
$$-5 = d$$
$$U_1 = U_3 - 2d$$
$$= 8 - 2(-5)$$
$$U_1 = 18$$

$$U_n = U_1 + (n-1)d$$
$$U_n = 18 + (n-1)(-5)$$
$$U_n = 18 - (n-1)(5)$$

**Q8** G. Seq:

*

$4, K, K^2-1$

$U_1 \quad U_2 \quad U_3$

**Find K**

$$\frac{U_2}{U_1} = r = \frac{U_3}{U_2}$$

$$\frac{K}{4} = \frac{K^2-1}{K}$$

$$4(K^2-1) = K^2$$

$$4K^2 - 4 = K^2$$

$$3K^2 = 4$$

$$K = \pm\sqrt{\frac{4}{3}}$$

**Q3**

3, 12, 48, 192

Is it Geometric?

$$\frac{12}{3} = 4, \quad \frac{48}{12} = 4$$

$$\frac{192}{48} = 4 \quad \therefore \frac{U_{n+1}}{U_n} = r$$

$\therefore r = 4$ ∴ the Seq is geometric

$$U_n = U_1 r^{n-1}$$

$U_1 = 3$

$r = 4$

$$U_n = 3(4)^{n-1}$$

$$U_9 = 3(4)^{9-1} = \text{do the calculation}$$

**Q4** **A. Seq**

$3K, K-2, K+7$

$(K-2)-(3K) = d = (K+7)-(K-2)$

$-2K-2 = 9$

$$K = \frac{-7}{2}$$