

$$0, 1, 4, 9, 16, 25, \dots$$

$1+3=4$
 $4+5=9$
 $9+7=16$
 $16+9=25$

$a_n = \frac{n^2}{4} = 1, 4, 9, 16, 25, \dots$

$$a_n = an^2 + bn + c$$

$$a_n = 1, 0n^2 - 0, 0n$$

$$a_n = 1, 0n^2 + bn + 0$$

$$a_{10} = 100 \times 1, 0 - 0 = 100$$

$$a_n = 1, 0n^2 + bn \xrightarrow{n=1} 1, 0+b=1$$

$$b = 0, 0$$

$$0, 1, 4, 9, 16, 25, \dots$$

$1+1=2$
 $2+1=3$
 $3+1=4$
 $4+1=5$
 $5+1=6$

$a_n = \frac{1}{r}n^2 + bn + 0 \xrightarrow{n=1} \frac{1}{r} + b = 0$

$$a_n = \frac{1}{r}n^2 + bn + 0 \xrightarrow{n=1} \frac{1}{r} + b = 0$$

$$b = -\frac{1}{r}$$

$$a_n = \frac{1}{r}n^2 - \frac{1}{r}n$$

$$\frac{1}{r}n^2 - \frac{1}{r}n = 100$$

$$n^2 - n = 100 \rightarrow n = 11$$

$$f(n-1) = f(n-1)$$

$$f(n) = f(n)$$

$$f(n+1) = f(n+1)$$

$$f(n) = f(n)$$

$$f(n) = f(n)$$

$$a_n = \frac{(-1)^n}{n} \quad \min = -1 \quad \max = \frac{1}{r}$$

$$-1, -\frac{1}{r}, 0, \frac{1}{r}, \frac{1}{r} + 1 = \frac{r}{r}$$

$$b_n = (-r)^n - vn \rightarrow b_r = -rv - r1 = -r1$$

$$a_n = -rn + rr \rightarrow a_k = -rk + rr$$

$$a_{10} - a_v = 1r \quad a_f - a_1 = ? \rightarrow a_1 + \Delta d - a_1 = \Delta d = 1r$$

$$a_1 = a_v + 1r$$

$$a_{10} = a_v + rd$$

$$a_n \rightarrow a_1, a_r, a_v, a_f \Rightarrow v + rd = 10$$

$$rd = 1$$

$$d = f$$

$$b_n \rightarrow b_1, b_r, b_v, b_f \Rightarrow b_n = 1n - 1$$

$$b_n = 1n - 1$$

$$t_n = \frac{r}{a} \frac{1}{v}, \frac{1}{a}, \frac{1}{11}, \frac{1}{15}, \frac{1}{15}, \frac{1}{15}, \frac{1}{19}$$

$\frac{r}{a} \frac{1}{v} = \frac{1}{a} \frac{1}{v} \rightarrow 1n - f(4n + 4)$

$$t_n = 4, 9, 9, 9, 0, \dots \quad t_n = An^2 + Bn \quad 3A + 2B = \frac{9}{r} + \frac{0}{r} = \frac{9}{r} = 3r$$

$$t_n = \frac{r}{r}n^2 + Bn \xrightarrow{n=1} \frac{r}{r} + B = 9$$

$$B = \frac{10}{r}$$

$$t_n = -4, -4, 0, \dots \quad t_n = n^2 + bn - 4 \xrightarrow{n=1} 1 + b - 4 = -3 \Rightarrow t_n = n^2 - n - 4$$

$$b = -1$$

$$a_r = r1 \Rightarrow r1 + rd = f1$$

$$a_f = f1 \Rightarrow rd = 1$$

$$d = 1 \rightarrow An + r1$$

$$n^2 - n - 4 = 2n + r1 \quad n = 9 \rightarrow 80 + r1 = 44$$

$$n^2 - 4n - 2v = 0 \quad 11 - 9 - 4 = 44$$

$$(n-r)(n-9) = 0$$