

$$\begin{array}{ccccccc}
 22 & 12 & 5 & 1 & 0 & & \\
 \rightarrow & \rightarrow & \rightarrow & \rightarrow & \rightarrow & & \\
 +1 & +4 & +7 & +10 & & & \\
 \rightarrow & \rightarrow & \rightarrow & & & & \\
 +3 & +3 & +3 & & & &
 \end{array}$$

$$1,5 n^2 - 0,5 n = (1,5 \times 100) - (0,5 \times 10) = 150 - 5 = 145$$

۳

۱

$$\begin{array}{ccc}
 0 & 1 & 3 \\
 \rightarrow & \rightarrow & \\
 +1 & +1 & \\
 \rightarrow & & \\
 +1 & &
 \end{array}$$

$$\frac{1}{r} n^2 - \frac{1}{r} n + 0 = \frac{n^2 - n}{r} = \frac{n(n-1)}{r}$$

$$\frac{n(n-1)}{r} = 55 \quad n(n-1) = 110 \Rightarrow n = 11$$

۲

۲

$$\begin{array}{c|ccc}
 0 & 5 & 13 & 21 \\
 \hline
 1 & 5 & 9 & 13
 \end{array}$$

$$1n - 3 \Rightarrow 1(11) - 3 = 8$$

$$r_{n+1} \Rightarrow r(11) + 1 = 45$$

$$8 + 45 = 53$$

۳

۳

$$-1 \text{ و } \frac{1}{r} \text{ و } \frac{-1}{r} \text{ و } \frac{1}{r} \text{ و } \frac{-1}{r} \text{ و } \dots$$

تفاوت بین جمله $\frac{1}{r}$ است و کمترین $\frac{-1}{r}$ است

$$\frac{1}{r} - (-1) = \frac{r}{r}$$

۴

۴

$$b^3 = (-3)^3 - v(3) = -27$$

$$a_k = -5k + 22$$

$$-27 = -5k + 22$$

$$-5k = -27 - 22 = -49 \Rightarrow k = 9.8$$

۵

۵

$$t_{10} - t_V = 12$$

$$10a + b - (Va + b) = 12a = 12 \Rightarrow a = 1$$

$$t_4 - t_1 = 4a + b - (a + b) = 3a = 10 \quad \text{f}$$

5

$$\begin{cases} t_V = 1a + b = V \\ t_F = 1a + b = 10 \end{cases} \Rightarrow \begin{cases} a = 1 \\ b = -1 \end{cases}$$

$$t_1 = a + b = 1 - 1 = 0$$

$$t_V = 1a + b = 11$$

$$b_n \begin{cases} t_1 = 1 = a + b \\ t_V = 11 = 1a + b \end{cases} \Rightarrow \begin{cases} a = 1 \\ b = -1 \end{cases}$$

5

$$b_n = 1n - 1$$

$$\text{Vorgabe} = \frac{\text{Zugeteilte}}{\text{Zugeteilte}} = \frac{1n - 1}{1n + 1}$$

5

10

$$\begin{array}{ccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 \end{array}$$

$$1n - 1$$

$$\begin{array}{ccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 \end{array}$$

$$1n + 1$$

$$\frac{1n - 1}{1n + 1} < \frac{1}{2}$$

$$n = 1, 2, 3, 4, 5, 6, 7$$

$$\begin{cases} 1n - 1 < 1n + 1 \\ 1n < 1 \end{cases} \Rightarrow n < \frac{1}{1} = 1, 1$$

1

$$\begin{array}{ccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 \end{array}$$

$$\Rightarrow -1, 1n + 1, 1n$$

$$A = -1, 1 \quad B = 1, 1$$

$$1A + 1B = 1(-1, 1) + 1(1, 1) = 1, 1$$

5

1

$$\begin{array}{ccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 \end{array}$$

$$1n - 1n - 1$$

$$\begin{cases} t_V = 1a + b = 11 \\ t_F = 1a + b = 11 \end{cases} \Rightarrow \begin{cases} a = 1 \\ b = 1 \end{cases} \Rightarrow 1n + 1$$

$$1n - 1n - 1 = 1n + 1$$

$$1n - 1n - 1 = 0$$

$$(1n - 1)(1n + 1) = 0$$

$$1n = 1 \quad 1n = -1$$

5

10

1

ÜÜÜ