

$$\begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 2 \\ 1 \end{pmatrix} \rightarrow \begin{pmatrix} a_{11}x + a_{12}y \\ a_{21}x + a_{22}y \end{pmatrix} = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$$

سوال ۱: $a_{11}=2, a_{12}=1, a_{21}=1, a_{22}=1$

۱.۸ و ۱.۸۵، ...، ۹۹۷

$$\frac{997 \cdot 1.1}{1.1} + 1 = 1.19$$

سوال ۲: $\frac{1}{n} \sum_{k=1}^n a_k = 1.1$ و $\frac{1}{n} \sum_{k=1}^n a_k^2 = 1.19$

سوال ۳: $a_{11} + a_{12} + a_{21} + a_{22} = 4n + 12$

$$a_{11} + a_{12} + a_{21} + a_{22} = 4n + 12$$

$$a_{11} - a_{12} = a_{21} - a_{22} = -1.2$$

$$(a_{11} + a_{12}) + (a_{21} + a_{22}) = 4n + 12$$

$$2(a_{11} + a_{12}) = 4n + 12 \rightarrow a_{11} + a_{12} = 2n + 6$$

$$a_{11} + a_{12} = a_{21} + a_{22}$$

$$r - r + r - r = 0$$

$$r \left(\frac{r}{a} \right) - \epsilon = r \left(\frac{r}{a} \right) \rightarrow \frac{r^2}{a} - \epsilon = \frac{r^2}{a} \rightarrow \epsilon = 0$$

سوال ۴: $a_{11}=r, a_{12}=r^2, a_{21}=r^3$

$$a_{11}=r, a_{12}=r^2, a_{21}=r^3$$

$$r + r^2 + r^3 = \frac{r^4}{r} = r^3$$

$$a_{11} + a_{12} = r + r^2$$

$$a_{11} + a_{12} = a$$

$$r + r^2 = a \rightarrow r^2 + r - a = 0 \rightarrow r = \frac{-1 \pm \sqrt{1+4a}}{2}$$

سوال ۵: $a_{11}=1, a_{12}=10, a_{21}=2$

$$a_{11}=1, a_{12}=10, a_{21}=2$$

$$\begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix} = \begin{pmatrix} 1 & 10 \\ 2 & 20 \end{pmatrix}$$

$$a_{11} + a_{12} + a_{21} + a_{22} = \frac{1}{n} (a_{11} + a_{12} + a_{21} + a_{22})$$

$$a_{11} + a_{12} = \frac{1}{n} (a_{11} + a_{12}) \rightarrow a_{11} + a_{12} = 0$$

سوال ۶: $\frac{a_1}{a_2} = \frac{1}{n} (a_{11} + a_{12})$

$$\frac{a_1}{a_2} = \frac{1}{n} (a_{11} + a_{12}) = \frac{1}{n} (1 + 10) = \frac{11}{n}$$

$$a_{11} - a_{12} = 10 \rightarrow d = 10$$

$$\frac{(a_{11} - a_{12})^2}{a_{11} \cdot a_{12}} = \frac{(10)^2}{1 \cdot 10} = 10$$

سوال ۷: $t_1 = t_2 = 1.1$

$$\frac{t_1 - t_2}{a_{11}} = \frac{1.1 - 1.1}{1} = 0$$

