

الاحتمال

$$(1) \quad \text{نشان بدهید} \rightarrow \text{صفر} \rightarrow \frac{(1+3+5+7+9)}{5} = 5 \rightarrow \text{جواب}$$

$$(2) \quad \frac{\sqrt{1+4\sqrt{3}}}{\sqrt{3}+1} = \sqrt{2} \quad \text{الف)}$$

$$\text{ب)}$$

$$\left(\frac{1}{\sqrt{2}}\right) \left(\sqrt{(\sqrt{2}-\sqrt{3})^2 - \sqrt{2+3}}\right) = \frac{1}{\sqrt{2}} \times (-\sqrt{2}) = -1$$

$$\text{الف)}$$

$$\frac{(2\sqrt{2}+3\sqrt{3})(3+\sqrt{2})}{19} - \frac{3(\sqrt{2}+1)}{4} = \sqrt{2} - 1$$

$$\text{ب)}$$

$$\frac{(2\sqrt{2}+3\sqrt{3})(3-\sqrt{2})}{19-4} + \frac{3+\sqrt{2}}{4-3} = 2\sqrt{2}+1$$

$$(3) \quad \frac{\sqrt{2}\sqrt{2+3\sqrt{3}}}{\sqrt{2}-\sqrt{3}} - 2 = \frac{\sqrt{2}(\sqrt{2+3\sqrt{3}})^2}{2-3} - 2 = 1+3\sqrt{3}$$

$$\text{ب)}$$

$$\frac{1}{2\sqrt{2}} \times \frac{1}{2\sqrt{3}} \times \frac{1}{2\sqrt{2}} \times \frac{1}{2\sqrt{3}} = 1/4$$

$$(4) \quad \frac{(2\sqrt{2})^x}{(2\sqrt{3})^x} = 1 \Rightarrow \frac{2^x \times 2^{x/2}}{2^x \times 3^{x/2}} = 1 \rightarrow \frac{2^{3x/2}}{3^{x/2}} = 1 \Rightarrow x = 2$$

$$(5) \quad \left(a^2 + \frac{1}{a^2} + 4 - 2\right)^2 = \left(2 - \sqrt{2} + \frac{2+\sqrt{2}}{2-2}\right)^2 = 14 \rightarrow t = 14 \Rightarrow t = 8$$

$$(6) \quad (a^2 + b^2 + c^2 + d^2 - 2a^2b^2)^2 = t(2 - \sqrt{2}) \rightarrow \frac{2^2}{2 - \sqrt{2}} = t \rightarrow t = 2(1 + \sqrt{2})$$

$$(7) \quad \frac{2^x}{2^y} \times \frac{2^y}{2^x} = 2 \rightarrow A = 2 \rightarrow \frac{1}{2} = \frac{1}{2}$$

$$(8) \quad \sqrt{a} = 2\sqrt{a} \times \sqrt{a} \rightarrow a = \frac{1}{\sqrt{2}} \Rightarrow \frac{\sqrt{2}-1}{\sqrt{2}+1} = \frac{2(\sqrt{2}-1)^2}{2} = 2(\sqrt{2}-1)^2$$

$$= 2 - 2\sqrt{2}$$

$$(9) \quad \sqrt{2a} + \sqrt{a-2} - 2 = 2 + \sqrt{a-2} + \sqrt{a-2} - 2 = 2\sqrt{a-2}$$