

$$(1! + 3! + 5! + \dots + 25!) (2! + 4! + 6! + \dots + 26!)$$

(۲) -۱

$$(1 + 9 + 0 + \dots + 0) (2 + 4 + 0 + \dots + 0) = 7 \times 6 = 42 \checkmark$$

$$\sqrt[4]{(4+\sqrt{7})^{-1} \times 2(4+\sqrt{7})} = \sqrt[4]{2 \times \frac{4+\sqrt{7}}{4+\sqrt{7}}} = \sqrt[4]{2} \checkmark$$

(۲-۱ الف)

(۲)

$$\frac{\sqrt{2} + \sqrt{5}}{\sqrt{2}(\sqrt{5} + \sqrt{2})} = \frac{1}{\sqrt{2}} \Rightarrow \frac{1}{\sqrt{2}} \times (-\sqrt{2}) = -1 \checkmark$$

(ب)

$$(2-\sqrt{5}) + (2+\sqrt{5}) - 2\sqrt{4} = 4 - 4 = 0 \Rightarrow -\sqrt{2}$$

$$\frac{(\sqrt{2}^3 + \sqrt{3}^3)}{5 - \sqrt{6}} = \frac{(\sqrt{2} + \sqrt{3})(2 + 2\sqrt{6})}{5 - \sqrt{6}} = (\sqrt{2} + \sqrt{3}) - \frac{2}{\sqrt{2}-1} \Rightarrow \sqrt{2} - 1 \checkmark$$

(۲-۳ الف)

وقت!

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

$$\Rightarrow \frac{(2\sqrt{2}-1)(4-\sqrt{2})}{12} = \frac{12\sqrt{2}-12}{12} \Rightarrow \sqrt{2}-1 + \frac{1}{2-\sqrt{2}} = \frac{2\sqrt{2}-4}{2-\sqrt{2}}$$

$$(2-\sqrt{2}+4)(2+\sqrt{2}) = 6\sqrt{2}+1-4\sqrt{2} = 2\sqrt{2}+1 \checkmark$$

$$9x = (\sqrt{1+\sqrt{3}} + \sqrt{4-\sqrt{3}}) \Rightarrow 2\sqrt{3} + 2\sqrt{2} = 2(\sqrt{3} + \sqrt{2})$$

(۴-۱ الف)

(۲)

$$= \frac{\sqrt{2(\sqrt{2}+\sqrt{3})}}{\sqrt{\sqrt{3}-\sqrt{2}}} - 2 = \sqrt{2(\sqrt{3}+\sqrt{2})^2 - 2} = \sqrt{4} + 2 - 2 = \sqrt{4} \checkmark$$

$$2^{\frac{1}{12}} \times 16^{\frac{1}{4}} \times 2^{\frac{1}{2}} \times 2^{\frac{1}{12}} = 2^{\frac{14}{12}} \times 2^{\frac{1}{12}} = 12 \checkmark$$

(ب)