

• **تمرين 03:**

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

(2) $A = \frac{1}{1 \times 2 \times 3} + \frac{1}{2 \times 3 \times 4} + \dots + \frac{1}{18 \times 19 \times 20}$

• **تمرين 04:**

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

(2) $y = 1 - 2\sqrt{2} + \sqrt{3} \quad x = 4\sqrt{3} - 7 \quad |y| \quad |x|$

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

• **تمرين 05:**

(1) $b = 654^{342} \quad a = 123^{456}$

(2) $\frac{x^2+1}{y} + \frac{y^2+1}{x} \geq 4$

(3) $\sqrt{xy} \leq \frac{x+y}{2}$

$x + y = 1$

$\left(1 + \frac{1}{x}\right) \cdot \left(1 + \frac{1}{y}\right) \geq 9$

• **تمرين 06:**

(1) $(E): (x+1)(y+2) = 2xy$

(2) $A = 8 + 8^2 + 8^3 + 8^4 + \dots + 8^{888}$

• **تمرين 01:**

(1) $a^2 + b^2$

(2) $n^3 - n = (n+2)(n^2 - 2n + 3) - 6$

(3) $(2n+3)(2n+5) = (2n+1)(2n+7) + 8$

(4) $p = (2n+1)(2n+3)(2n+5)(2n+7) + 16$

(5) $a + b \quad a \times b \quad b = 583 \ 583 \quad a = 407 \ 407$

• **تمرين 02:**

(1) $B = \left(\sqrt{1 + \frac{\sqrt{3}}{2}} - \sqrt{1 - \frac{\sqrt{3}}{2}}\right)^2 \quad A = \frac{\sqrt{11}}{\sqrt{11} + \sqrt{13}} + \frac{\sqrt{13}}{\sqrt{11} - \sqrt{13}}$

(2) $E = (x^2 - 5) - 4x(x + \sqrt{5}) \quad D = (2x - 6)x + (x^2 - 9)$

(3) $Y = \sqrt{33 - 8\sqrt{17}} \quad X = (4 - \sqrt{17})^2$