Elementary algebra

(બીજગણિત)

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$$(a+b)^2 = a^2 + b^2 + 2ab$$

+

$$(a-b)^2 = a^2 + b^2 - 2ab$$

$$(a+b)^2 - (a-b)^2 = 4$$

$$\frac{(a+b)^2 - (a-b)^2}{ab} = 4$$

a, b →

$$\# \frac{(174+32)^2+(174-32)^2}{174^2+32^2} = 2$$

$$\# \frac{(203+493)^2-(493-203)^2}{203 \times 493} = 4$$

$$x + \frac{1}{x} = p \qquad x^2 + \frac{1}{x^2} = ?$$

$$(a+b)^2 = (p)^2 \qquad a^2 + b^2$$

$$a^2 + b^2 + 2ab = p^2$$

$$a^2 + b^2 = p^2 - 2ab$$

$$x^2 + \frac{1}{x^2} = p^2 - 2(x)\times\frac{1}{x} = p^2 - 2(1)$$

$x + \frac{1}{x} = 5 \longrightarrow x^2 + \frac{1}{x^2} = 5^2 - 2 = 23$

$x + \frac{1}{x} = \sqrt{7} \longrightarrow x^2 + \frac{1}{x^2} \Rightarrow$

$p^2 - 2$

$\downarrow$

$7 - 2 = 5$

$$\left(x^6 + \frac{1}{x^6}\right)^2 = (-1)^2$$

$$x^{12} + \frac{1}{x^{12}} = ?$$

$$(-1)^2 - 2 \Rightarrow -1$$

$$x^{12} + \frac{1}{x^{12}} + 2 = 1$$

$$-1$$

$$x^7 + \frac{1}{x^7} = 3$$

$$x^{14} + \frac{1}{x^{14}} = ?$$

$$\frac{p^2 - 2}{1}$$

$$9 - 2 = 7$$

$$\sqrt{x} + \frac{1}{\sqrt{x}} = \sqrt{7} \quad ; \quad x^4 + \frac{1}{x^4} = ?$$

$$x + \frac{1}{x} = (\sqrt{7})^2 - 2$$

$$= 5$$

$$x^2 + \frac{1}{x^2} = 5^2 - 2 = 23$$

$$(23)^2 - 2$$

$$529 - 2$$

$$527$$

$3x + \frac{1}{3x} = \sqrt{5}$ $\quad 9x^2 + \frac{1}{9x^2} \Rightarrow$

$\hookrightarrow (\sqrt{5})^2 - 2 \Rightarrow$

(3) $\quad p^2 - 2(ab)$

(1)

$\therefore$

$$\left(\overset{a}{3x} + \underset{b}{\frac{1}{2x}}\right)^2 = \left(\sqrt{7}\right)^2$$

$9x^2 + \frac{1}{4x^2} = ?$

$$9x^2 + \frac{1}{4x^2} + 2(3x)\left(\frac{1}{2x}\right) = 7$$

$$9x^2 + \frac{1}{4x^2} = 4$$

$$\sqrt{x} + \frac{1}{2\sqrt{x}} = \sqrt{3} \quad ; \quad x^2 + \frac{1}{16x^2} = ?$$

$$x + \frac{1}{4x} = (\sqrt{3})^2 - 2(\sqrt{x})\left(\frac{1}{2\sqrt{x}}\right)$$

$$= 2$$

$$4 - 2(x)\left(\frac{1}{4x}\right) \Rightarrow \frac{7}{2}$$

$(a-b)^2$

11th c REP-2
12:30 — (2)

$a^2 - b^2 \Rightarrow (a+b)(a-b)$

$6^{32} - 35 \quad (6^2+1)(6^4+1)(6^8+1)(6^{16}+1)$