

$$ax^2+bx+c=0$$

~~$$x^2+5b+10=9$$~~

~~$$x^2+5b=-1$$~~

$$x^2+5b+6=0$$

$$(x+3)(x+2)$$

~~$$ax^2+bx+c$$~~

$$ax^2+bx+c=(a+b)^2$$

$$(a+b)^2=ax^2+bx+1$$

~~$$(a-b)^2=$$~~

~~$$(a+b)^2(a-b)$$~~

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

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

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

$$4x^2-2x-5=0$$

$$4x^2-2x=5$$

$$x^2-\frac{1}{2}x=\frac{5}{4}$$

$$\text{Derived value} = b \cdot \frac{1}{2} = (-\frac{1}{2}) \cdot \frac{1}{2} = -\frac{1}{4} = e$$

$$e^2 = (-\frac{1}{4})^2 = \frac{1}{16}$$

$$x^2-\frac{1}{2}x=\frac{5}{4}$$

$$x^2-\frac{1}{2}x+\frac{1}{16}=\frac{5}{4}+\frac{1}{16}$$

$$=\frac{20}{16}+\frac{1}{16}$$

$$=\frac{21}{16}$$

$$x^2-\frac{1}{2}x+\frac{1}{16}=\frac{21}{16}$$

$$(x-\frac{1}{4})^2=\frac{21}{16}$$

$$\sqrt{(x-\frac{1}{4})^2}=\sqrt{\frac{21}{16}}$$

$$x-\frac{1}{4}=\pm\sqrt{\frac{21}{16}}$$

$$x=\frac{1}{4}+\sqrt{\frac{21}{16}} \quad || \quad x=\frac{1}{4}-\sqrt{\frac{21}{16}}$$

$$x^2-\frac{1}{2}x+\frac{1}{16}=(a-b)^2$$

$$a^2-2ab+b^2 \quad a=x \quad b=\frac{1}{4}$$

$$x^2-2 \cdot x \cdot \frac{1}{4}+(\frac{1}{4})^2=x^2-\frac{1}{2}x+\frac{1}{16}$$

$$x^2-\frac{1}{2}x+\frac{1}{16}=(x-\frac{1}{4})^2$$

$$x^2 + 6x - 7 = 0$$

$$(x+7)(x-1) = 0$$

$$x = -7, x = 1$$

$$x^2 + 6x - 7 = 0$$

$$x^2 + 6x = 7$$

$$\begin{aligned} & \parallel \quad w = +6 \\ & \quad + 6 \cdot \frac{1}{2} = 3 \\ & \therefore \quad 3^2 = 9 \end{aligned}$$

$$\begin{aligned} x^2 + 6x + 9 &= 7 + 9 \\ x^2 + 6x + 9 &= 16 \end{aligned}$$

$$(b \cdot \frac{1}{2})^2$$

$$\cancel{2b} = \cancel{6}^2$$

$$2b$$

$$(x+3)^2 = 16$$

$$x+3 = \pm \sqrt{16}$$

$$x = 4+3, x = -4-3$$

$$7x^2 + 29x - 13 = 7$$

$$7x^2 + 29x = 20$$

$$\left(\frac{29}{2}\right)^2 - \left(\frac{145}{7}\right)^2 \div 7$$

$$7x^2 + 29x = 20$$

$$x^2 + \frac{29}{7}x = \frac{20}{7}$$

$$\left(\frac{29}{7} \cdot \frac{1}{2}\right)^2$$

$$x^2 + \frac{29}{7}x + \left(\frac{29}{14}\right)^2 = \frac{20}{7} + \left(\frac{29}{14}\right)^2$$

$$\left(x + \frac{29}{14}\right)^2 = \frac{20}{7} + \left(\frac{29}{14}\right)^2$$

$$x + \frac{29}{14} = \pm \sqrt{\frac{20}{7} + \left(\frac{29}{14}\right)^2}$$

$$x = \sqrt{\frac{20}{7} + \left(\frac{29}{14}\right)^2} - \frac{29}{14}$$

$$x = -\sqrt{\frac{20}{7} + \left(\frac{29}{14}\right)^2} - \frac{29}{14}$$