$(x-3)(x-2)+2x^2 = 3x^2-5x-2$?

$x^2-3x+6-2x+2x^2-8 = 3x^2-5x-2$ ✓ $[2x^2-8]$

$(x-3)(x-2)+2x^2-8 = (x-3)(x-2)+(x-2)(x+4)$?

$(x+4)(x-2) = x^2-2x+4x-8$ $(-2x)2$ $[-2x]2$

$(x-3)(x-2)+(x-2)(x+4)+(x-2)(x+4)+2x^2-8+2(-2x)$

$x^2-2x-8x+6x+x^2+4x-2x-8+x^2+4x-2x-8+2x^2-4x$

$x^2+x^2+x^2+2x^2-2x-3x+4x-2x+4x-2x-4x+6-8-8-8$

$5x^2-5x-18 \stackrel{?}{=} 3x^2-5x-2+[2x^2-8-(2x-2)]$

$5(2^2)-5(2)-18 = 20-10-18 = 8$ $8 = 8$

$5(-4^2)-5(4)-18 = 80+20-18 = 82$ $3x^2$

$3(-4)-5(-4)-2 = 12+20 = ++$ $3(4^2)-5(+4)-3[2(4^2)-5(4)]$

$3(4)+20=2+32-8-16+24$ $3x^2-5x-2=0$ $3(-3^2)-5(-3)-1$

$5 = 3(9)+15-2 = 27+15-2 = 32$ 6) $3xx^2 = (-5(7))$

$3(1^2)-5(1)^2$ $3-5-2 = -4$ $5(2^2)-5(2)-2 = 12-10-2 = 0$

$3(5^2)-5(5) = 75-25-2 = 50-2$ $3(-2)-5(-2)-2 = 12+10-2 = 20$

$3(-1^2)-5(-1)-2 = 3+5-2 = 6$ $3(1^2)-5(1)-2 = 3-5-2 = -4$

$3(6^2)-5(6)-2 = 78-30-2 = 46$ $x = \frac{-(-5)\pm\sqrt{(-5)^2-4(-2)}}{2}$

$x = \begin{cases} \dfrac{5\pm\sqrt{25+8}}{2} & \begin{cases} \dfrac{5+\sqrt{33}}{2} = \dfrac{5+\sqrt{33}}{2} \approx 5.37 \\ \\ \dfrac{5-\sqrt{33}}{2} = \dfrac{5-\sqrt{33}}{2} \approx -3.72 \end{cases} \end{cases}$

$3(-3)-5(-3)-2 = 3(9)+15-2 = 30$ $3(5^2)-5(5)-2$

$= 75-25-2 = 48$ $3(-5)-5(-5)^2 = 75+25-2 = 98$

$\dfrac{-(-5)\pm\sqrt{(-5)^2-4(3)(-2)}}{2(3)} = \dfrac{5\pm\sqrt{25+24}}{6} = \dfrac{5\pm\sqrt{49}}{6} = \dfrac{5\pm7}{6}$

$x = \begin{cases} \dfrac{5+7}{6} = \dfrac{12}{6} = 2 & 3(2^2)-5(2)^2 = 12-10-2 = 0 \\ \\ \dfrac{5-7}{6} = \dfrac{-2}{6} = -\dfrac{1}{3} = -3^{-1} & 3(\frac{-1}{3})^2-5(\frac{-1}{3}) = 4+(\frac{18}{6})-2 \end{cases}$

$R^o \ x+2, -\dfrac{1}{3}$

e) $5x^2-8x+2 = 0$ $x = \dfrac{-b\pm\sqrt{b^2-4ac}}{2a}$ $= \dfrac{8+2\sqrt{6}}{10} = \dfrac{8+2(\sqrt{2}\sqrt{3})}{10}$

$x = \dfrac{-(-8)\pm\sqrt{(-8)^2-4(5)(2)}}{2(5)}$

$= \dfrac{8-2\sqrt{6}}{10} = \dfrac{8-3(\sqrt{2}\sqrt{3})}{10}$

$x = \dfrac{8\pm\sqrt{64-40}}{10} = \dfrac{8\pm\sqrt{24}}{10}$

$x = 1,2989795$ ✓

$2(2^{1/2}-3^{1/2}) = 2\times6^{1/2}$ $\dfrac{64-12}{100} = \dfrac{52}{100} = 5.2$ $x = -1$

$0,3101020051$ ✓

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