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

$$1 + x^2 - 2x = 2x + \frac{x^2 - 3x + 7}{2}$$

$$\not{2} \cdot \frac{2 + 2x^2 - 4x}{\not{2}} = \frac{4x + x^2 - 3x + 7}{\not{2}} \cdot \not{2}$$

$$2x^2 - 4x - 4x - x^2 + 3x = -2 + 7$$
$$x^2 - 5x = 5$$
$$x^2 - 5x - 5 = 0$$

$$\Delta = b^2 - 4ac \qquad x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a}$$
$$\Delta = 25 - 4(1 \cdot -5) =$$
$$= 25 + 20 = 45$$
$$x_1 = \frac{5 + \sqrt{45}}{2} = \frac{5 + \sqrt{3^2 \cdot 5}}{2} = \frac{5 + 3\sqrt{5}}{2}$$
$$x_2 = \frac{5 - \sqrt{45}}{2} = \frac{5 - \sqrt{3^2 \cdot 5}}{2} = \frac{5 - 3\sqrt{5}}{2}$$

$$S = \left\{ \frac{5 - 3\sqrt{5}}{2} \; ; \; \frac{5 + 3\sqrt{5}}{2} \right\}$$

$\sim -0{,}85 \qquad\qquad \sim 5{,}85$

137) $\dfrac{2}{3}x + \dfrac{1}{2}x\,(x+2) - 5x + \dfrac{1}{6} = \dfrac{x}{3}\,(x-5)$

$$6 \cdot \left(\frac{2}{3}x + \frac{1}{2}x^2 + x - 5x + \frac{1}{6} \right) = \left(\frac{1}{3}x^2 - \frac{5}{3}x \right) \cdot 6$$

$$4x + 3x^2 + 6x - 30x + 1 = 2x^2 - 10x$$

$$4x + 3x^2 + 6x - 30x + 1 - 2x^2 + 10x = 0$$

$$x^2 - 10x + 1 = 0 \qquad a = 1 \quad b = -10 \quad c = 1$$

$$\Delta = b^2 - 4ac = +100 - 4 = 96$$

$$x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{+10 \pm \sqrt{96}}{2} = \frac{+10 \pm 4\sqrt{6}}{2} = \frac{\not{2}(5 \pm 2\sqrt{6})}{\not{2}} = 5 \pm 2\sqrt{6}$$

$$S = \left\{ 5 - 2\sqrt{6} \; ; \; 5 + 2\sqrt{6} \right\}$$

$\sim 0{,}10 \qquad \sim 9{,}90$

$$(2-3x)^2 - (2x+1)^2 = 4(2-4x)$$

$$9x^2 - 12x + 4 - (4x^2 + 4x + 1) = -16x + 8$$

$$9x^2 - \cancel{12x} + 4 - 4x^2 \cancel{-4x} - 1 = \cancel{-16x} + 8$$

OPPURE

$$5x^2 - 5 = 0 \implies 5x^2 = 5 \qquad x^2 = 1 \implies x = \pm 1$$

$$5(x^2 - 1) = 0$$

$$5(x-1)(x+1) = 0$$

$$S = \{-1 ; 1\}$$

$$x_1 = 1$$
$$x_2 = -1$$

OPPURE $\qquad a = 5 \quad b = 0 \quad c = -5$

$$\triangle = -4ac = 100$$

$$x_1, x_2 = \frac{\pm\sqrt{D}}{2a} = \frac{\pm\sqrt{100}}{10} = \frac{\pm 10}{10} = \pm 1 \qquad \left(\begin{array}{l}\text{non conviene} \\ \text{usare la formula}\end{array}\right)$$

Per domani: n. 142, 147, 150, 151 pag 698