

1. a)  $\frac{x^2}{10} + 160 = 0 \quad | \cdot 10$   
 $x^2 + 1600 = 0$   
 $x^2 = -1600 \quad | \sqrt{\quad}$   
 $x_{1,2} = \pm 40i$

b)  $x^2\sqrt{2} - x\sqrt{8} = 0$   
 $x^2\sqrt{2} - 2x\sqrt{2} = 0$   
 $x\sqrt{2}(x-2) = 0$   
 $x_1 = 0$   
 $x_2 = 2$

c)  $\frac{x-4}{6} + \frac{(x-2)^2}{8} = \frac{3-x}{5} \quad | \cdot 120$   
 $20x - 80 + 15(x-2)^2 - 24(3-x) = 0$   
 $20x - 80 + 15(x^2 - 4x + 4) - 72 + 24x = 0$   
 $15x^2 - 16x - 92 = 0$   
 $x_{1,2} = \frac{16 \pm \sqrt{256 + 5520}}{30}$   
 $x_1 = \frac{46}{15}$   
 $x_2 = -2$

/3

2. Pojednostavi:  $3(\sqrt{3} + \sqrt{2}) - 5(\sqrt{2} - \sqrt{3})$   
 $3\sqrt{3} + 3\sqrt{2} - 5\sqrt{2} + 5\sqrt{3}$   
 $8\sqrt{3} - 2\sqrt{2}$

/1

3. Skraži razlomak:  $\frac{2x^2 + 5x - 3}{3x^2 + 11x + 6} = \frac{(2x-1)(x+3)}{(3x+2)(x+3)} = \frac{2x-1}{3x+2}$   
 $x_{1,2} = \frac{-5 \pm \sqrt{25 + 24}}{4}$   
 $x_1 = \frac{1}{2}$   
 $x_2 = -3$   
 $x_{1,2} = \frac{-11 \pm \sqrt{121 - 72}}{6}$   
 $x_1 = -\frac{2}{3}$   
 $x_2 = -3$

/2

4. Riješi sustave jednačbi:  
 a)  $x + y = 8 \rightarrow x = 8 - y$   
 $xy = 15$   
 $(8-y)y = 15$   
 $y^2 - 8y + 15 = 0$   
 $\quad \quad \quad | \quad \quad \quad$   
 $\quad \quad \quad -3 \quad -5$   
 $x_1 = 3$   
 $x_2 = 5$   
 $3y = 15 \quad 5y = 15$   
 $y_1 = 5 \quad y_2 = 3$

/2