1. Riešte kvadratické rovnice
   a. $3x^2 + x - 2 = 0$ $[\{-1; \frac{2}{3}\}]$
   b. $2x^2 - 2x + 1 = 0$ $[\frac{1}{2} \pm \frac{1}{2}i]$
   c. $2x^2 - 2x + 5 = 0$ $[\frac{1}{2} \pm \frac{3}{2}i]$

2. V obore komplexných čísel riešte rovnice
   a. $2z + 3iz - 1 + 2i = -2 + i,$ b) $\dfrac{1+i}{2z+iz-i} = \dfrac{1}{z+1-i},$ c) $\frac{1}{z+i} - \frac{1+i}{z} = 1$

   (a) $[z = -\frac{5}{13} + i\frac{1}{13}],$ b) $[z = 2+i],$ c) $\left[z_{1,2} = -i \pm \frac{1}{\sqrt{2}}(-1+i)\right]$

3. Vypočítajte čísla $\left(\dfrac{1+i}{1-i}\right)^{2015},$ $[-i];$ $\dfrac{(1-i)(1-2i)}{3+4i},$ $\left[-\frac{3}{5} - \frac{1}{5}i\right]$
   a znázornite ich v komplexnej rovine.

4. Riešte binomické rovnice, riešenie znázornite v komplexnej rovine.

a) $z^2 = i,$ $\left[z_k = e^{i(\frac{\pi}{4}+k\pi)}, \ k = 0, 1\right];$ b) $z^4 = -4,$ $\left[z_k = \sqrt{2}e^{i(\frac{\pi}{4}+k\frac{\pi}{2})}, \ k = 0, 1, 2, 3\right]$

c) $z^4 = -2 + 2\sqrt{3}i,$ $\left[z_k = \sqrt{2}e^{i(\frac{\pi}{6}+k\frac{\pi}{2})}, \ k = 0, 1, 2, 3\right];$

d) $z^3 = -i$ $\left[z_k = e^{i(\frac{\pi}{2}+k\frac{2\pi}{3})}, \ k = 0, 1, 2\right].$

5. Nájdite reálne čísla x, y, ktoré spĺňajú rovnice:
   a. $x(2+3i) + y(4-5i) = 6 - 2i$ $[(x, y) = (1, 1)]$
   b. $(x-i)(2-yi) = 11 - 23i$ $[(x_1, y_1) = (7, 3); \ (x_2, y_2) = (-3/2, -14)]$
   c. $\frac{x}{2+3i} + \frac{y}{3+2i} = 1$ $[(x, y) = (-26/5, 39/5)]$