VZŤAHY MEDZI KOREŇMI A KOEFICIENTMI KVADRATICKEJ ROVNICE

• vyriešte rovnicu
$$x^2 + 3x + 2 = 0$$

 $\mathcal{D} = \Lambda$

zostavte kvadratickú rovnicu, ktorá má korene

$$x_1 = 0, x_2 = -4$$

$$x \cdot (x + 4) = 0$$

$$x^2 + 4x = 0$$

$$(x_1 = 3, x_2 = -3)$$

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$$x^2 - 3 = 0$$

$$x_{1} = -3, x_{2} = 2$$

$$(x+3).(x-3) = 0$$

$$x_{1}, x_{2} \rightarrow 0.(x-x_{1}).(x-x_{2}) = 0$$

$$x_{1}, x_{2} \rightarrow 0.(x-x_{1}).(x-x_{2}) = 0$$

$$x^{2} - xx_{1} - xx_{1} + x_{1}x_{2} = 0$$

$$x^{2} - x \cdot (x_{1} + x_{2}) + (x_{1} \cdot x_{2}) = 0$$

$$x^{2} - x \cdot (x_{1} + x_{2}) + (x_{1} \cdot x_{2}) = 0$$

$$x^{3} - x \cdot (x_{1} + x_{2}) + (x_{1} \cdot x_{2}) = 0$$

$$x^{4} + (x_{1} + x_{2}) + (x_{1} \cdot x_{2}) = 0$$

$$x^{2} - x \cdot (x_{1} + x_{2}) + (x_{1} \cdot x_{2}) = 0$$

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Každú kvadratickú rovnicu $ax^2 + bx + c = 0$ s koreňmi x_1 , x_2 vieme zapísať v tvare Koreno ufor willow a.(x-x) (x-x) =

Pre kvadratickú rovnicu $x^2 + px + q = 0$ s koreňmi x_1 , x_2 platí x_1 , x_2 platí x_1

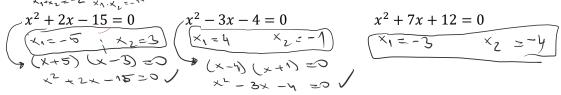
Victore vetaly

Pre kvadratickú rovnicu $ax^2 + bx + c = 0$ s koreňmi x_1 , x_2 platí

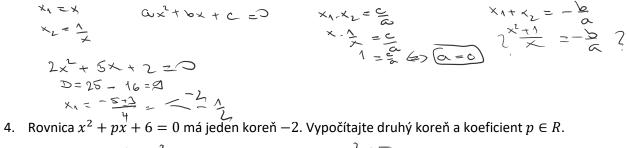
 $x_1 x_2 = \frac{c}{\omega}$ $\times \sqrt{+} \times 2 = -\frac{b}{Q}$

Úlohy

1. Pomocou vzťahov medzi koeficientmi a koreňmi KR (metódou "kuknem vidím") vyriešte nasledujúce rovnice

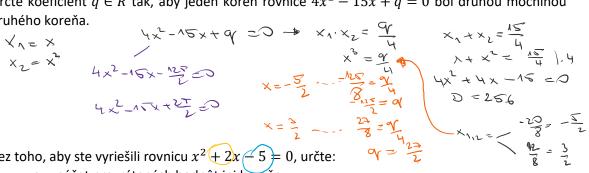


- 2. Rozhodnite, aké musia byť hodnoty koeficientov kvadratickej rovnice $x^2 + px + q = 0$, aby jej
- 3. Rozhodnite, aké musia byť hodnoty koeficientov kvadratickej rovnice $ax^2 + bx + c = 0$, aby jej korene boli navzájom prevrátené čísla. Overte na konkrétnom príklade.



$$x = -2$$
 $(-2)^2 - 2p + 6 = 0$ $(x^2 + 5x + 6 = 0)$ $2p = 40$ $x_1 = -2$ $x_2 = -3$

5. Určte koeficient $q \in R$ tak, aby jeden koreň rovnice $4x^2 - 15x + q = 0$ bol druhou mocninou druhého koreňa.



- 6. Bez toho, aby ste vyriešili rovnicu $x^2 + 2x 5 = 0$, určte:
 - a. súčet prevrátených hodnôt jej koreňov. b. súčet druhých mocnín jej koreňov.

