

ANALYTICKÁ GEOM.

1a) priamka $\overleftrightarrow{AB}$: $2x - 3y - 13 = 0$

vyška na str. AB: $3x + 4y - 17 = 0$... kolmica na $\overleftrightarrow{AB}$ cez bod C

os str. AB: $6x + 4y - 13 = 0$... kolmica na $\overleftrightarrow{AB}$ cez stred AB

lúčnica na AB: $12x + y - 40 = 0$... priamka CS_{AB}

1b) $\overleftrightarrow{AB} \cap p$... $P = [-1; -5]$

2a) p, q ... rovnobežky prias. $P = \left[\frac{-19}{15}; \frac{-1}{15} \right]$

q, n ... rovnobežky prias. $P = [-1; 1]$

p, n ... rovnobežky; $|p; n| = \frac{4}{\sqrt{17}} = \frac{4\sqrt{17}}{17}$

1c) $v = \frac{\sqrt{10}}{2}$

1d) normál. vektor priamky p je smerovým vekt. pr. q

q : $x = 5 + 3t$

$y = -1 - t$; $t \in \mathbb{R}$

3.) Hľadanie body: $A_1 = [15; -14]$ $A_2 = [-5; 6]$

TELESÁ

1a) kosoštvorec s dĺžkou str. $\sqrt{20} = 2\sqrt{5}$ a uhlopv. $4\sqrt{2}$ a $4\sqrt{3}$

obvod $v = 8\sqrt{5}$ obsah $S = 8\sqrt{6}$

1b) rovnoram. lichobežník $v = 6\sqrt{2} + 4\sqrt{5}$ $S = 18$

1c) rovnoram. Δ $v = 4\sqrt{2} + 4\sqrt{5}$ $S = 4\sqrt{6}$

2.) obdĺžnik $v = 30$ $S = 50$

3a) rovnoramenný Δ $S = \frac{16\sqrt{2}}{3}$

3b) štvorec $S = 9$

4.) ak dĺžka strany je a , potom hľadana vxd. je a

5a) $x = 4\sqrt{5}$ (6 možn.) 5b) $x = \sqrt{52}$ (1 možn.) 5c) $x = 2\sqrt{10}$ (2 možn.)

5d) $x = \sqrt{65}$ (2 možn.)

PRÁVĚPODOBNOST

$$1a) \quad p = \frac{\binom{8}{2}}{\binom{32}{2}} = \frac{\frac{8 \cdot 7}{2}}{\frac{32 \cdot 31}{2}} = 0,0565$$

$$1d) \quad \frac{\binom{4}{1} \cdot \binom{28}{1}}{\binom{32}{2}} = 0,2258$$

$$1b) \quad p = \frac{\binom{4}{2}}{\binom{32}{2}} = 0,0121$$

$$1e) \quad \frac{\binom{4}{1} \binom{28}{1} + \binom{4}{2} \binom{28}{0}}{\binom{32}{2}} = 0,2379$$

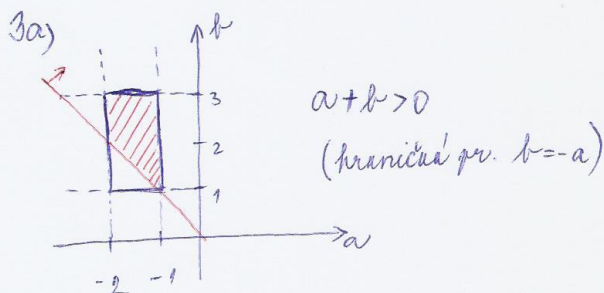
$$1c) \quad p = \frac{\binom{24}{2}}{\binom{32}{2}} = 0,5565$$

$$1f) \quad \frac{4 \cdot \binom{8}{2}}{\binom{32}{2}} = 0,2258$$

$$2a) \quad p = \frac{\binom{16}{3} \cdot \binom{4}{0}}{\binom{20}{3}} = 0,4912$$

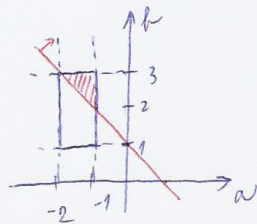
$$2b) \quad p = 1 - \frac{\binom{4}{3} \cdot \binom{16}{0}}{\binom{20}{3}} = 1 - 0,0035 = 0,9965$$

$$2c) \quad \frac{16+x}{20+x} = \frac{90}{100} \Rightarrow \underline{x=20}$$



$$p = \frac{S_{\square} - S_{\Delta}}{S_{\square}} = \frac{2 \cdot 1 - \frac{1 \cdot 1}{2}}{2 \cdot 1} = \underline{\underline{\frac{3}{4}}}$$

3b) $a + b > 1$ (hraniční přímka $b = -a + 1$)



$$p = \frac{S_{\Delta}}{S_{\square}} = \frac{\frac{1 \cdot 1}{2}}{2 \cdot 1} = \underline{\underline{\frac{1}{4}}}$$

3c) $a \cdot b > 0$ $p = 0$
 $- \cdot + = (-)$