$$P(A/B) = \frac{P(A \cap B)}{P(B)}$$

A... součet 7

B... nepadla ani jedna dvojka

$$P(B) = \frac{25}{36}$$

$$P(A \cap B) = \frac{|\{(1,6),(3,4),(4,3),(6,1)\}|}{36} =$$

$$= \frac{4}{36}$$

$$P(A/B) = \frac{\frac{4}{36}}{\frac{25}{36}} = \frac{4}{25}$$

A .... bílá ve 2. tahu

B .... bílá v 1. tahu

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

$$P(B) = \frac{b}{b+c}$$

$$P(A \cap B) = \frac{b \cdot (b-1)}{(b+c)(b+c-1)}$$

$$P(A|B) = \frac{\frac{b \cdot (b-1)}{(b+c)(b+c-1)}}{\frac{b}{b+c}} = \frac{b-1}{b+c-1}$$

1. urna i bílých, j černých

2. urna $(12-i)$ bíl. $(12-j)$ čer.

U_1 .... vybrána 1. urna

U_2 ... vybrána 2. urna

B .... bílá kulička

$$P(B) = P(B|U_1) + P(B|U_2) =$$

$$= \frac{i}{i+j} + \frac{12-i}{(12-i)+(12-j)} = \frac{24i - ij - i^2 + 12i + 12j - i^2 - ij}{(i+j)(24-(i+j))} = \frac{36i + 12j - 2i^2 - 2ij}{(i+j)(24-(i+j))}$$

A ... padla zlatá mince

B ... vybrána stříbrná mince

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

$$P(B) = \frac{1}{2}$$

$$P(A \cap B) = \frac{1}{3} \cdot \frac{1}{2} = \frac{1}{6}$$

$$P(A|B) = \frac{\frac{1}{6}}{\frac{1}{2}} = \frac{1}{3}$$

A ... z Kutné Hory

B ... je pravý

$$P(B) = \frac{10}{60} \cdot \frac{997}{1000} + \frac{50}{60} \cdot \frac{998}{1000}$$

pravý z Prahy

pravý z K.H.!

$$P(A \cap B) = \frac{50}{60} \cdot \frac{998}{1000}$$

$$P(A|B) = \frac{P(A \cap B)}{P(B)} = \frac{\frac{50 \cdot 998}{60 \cdot 1000}}{\frac{10 \cdot 997 + 50 \cdot 998}{60 \cdot 1000}} =$$

$$= \frac{49900}{49900 + 9970} = \frac{4990}{5987} \doteq \frac{5}{6}$$

$$P_1 = P_2 = P_3 = \frac{1}{2}$$

$$P_{12} = \frac{1}{4} = P_{13} = P_{23} = P_{123} \neq P_1 \cdot P_2 \cdot P_3$$

$P(A) = \frac{6}{8}$

$P(B) = \frac{4}{8}$

$P(A \cap B) = \frac{3}{8} = P(A) \cdot P(B)$

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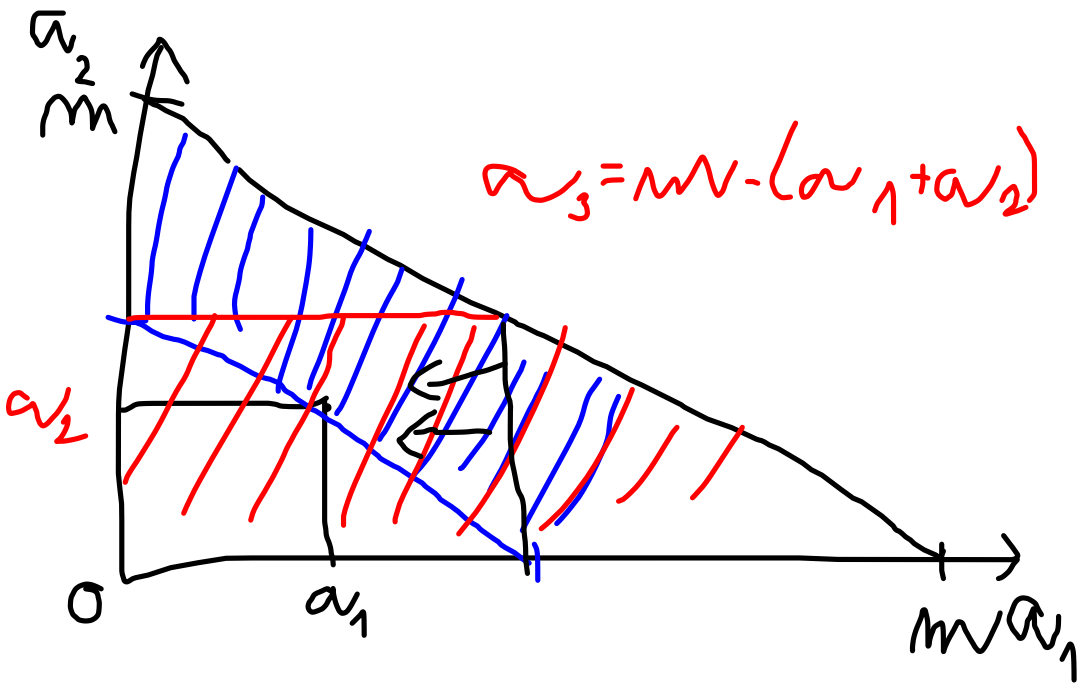
4 děti

$P(A) = \frac{14}{16}$ $P(A \cap B) = \frac{4}{16} \neq P(A) P(B)$

$P(B) = \frac{5}{16}$

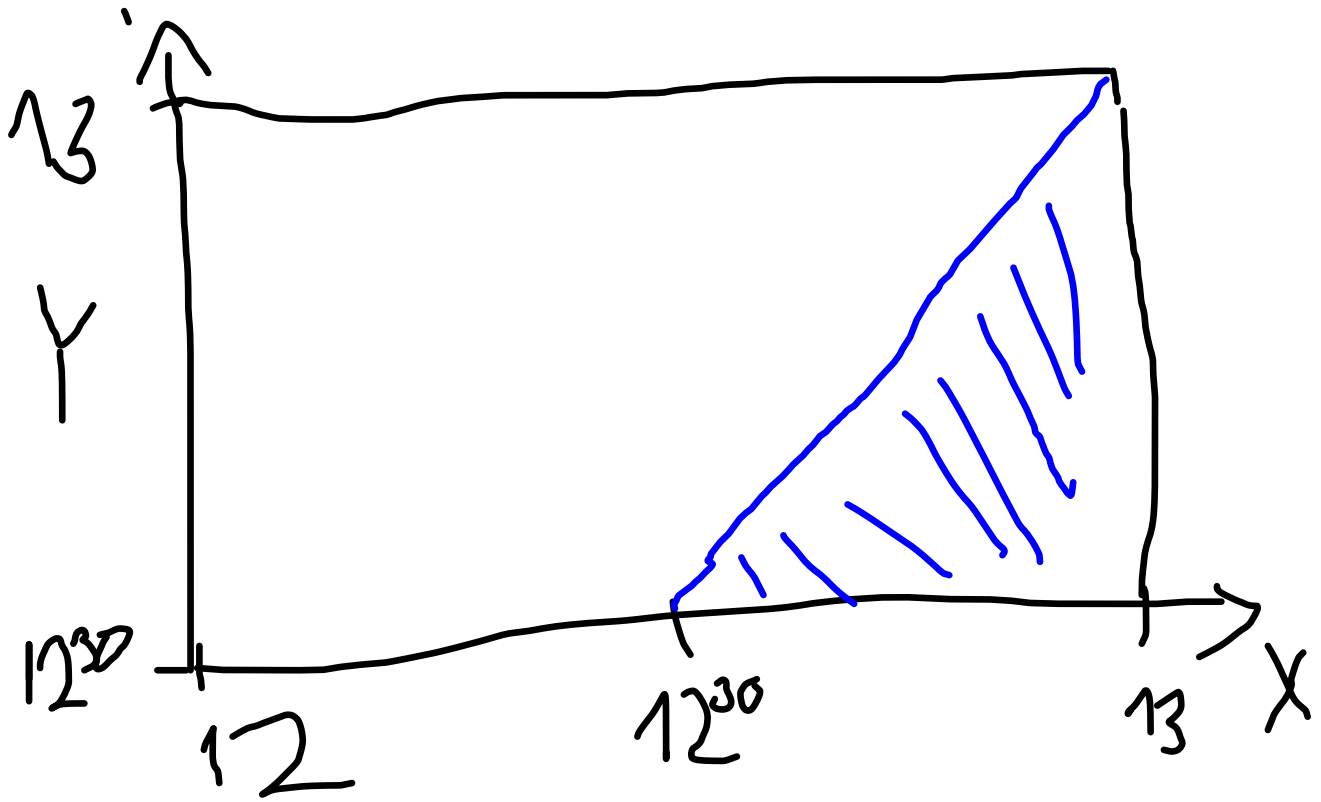


$a_1 + a_2 > a_3 \Leftrightarrow 2(a_1 + a_2) > mv$

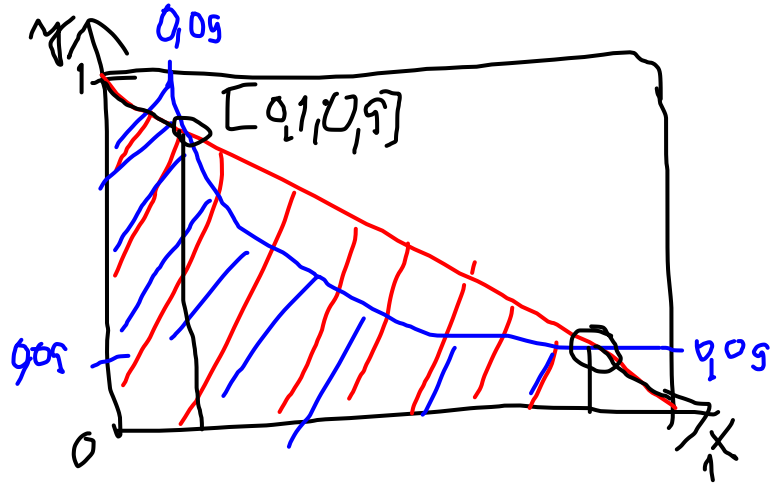
$a_1 + a_3 > a_2 \Leftrightarrow mv > 2a_2$

$a_2 + a_3 > a_1 \Leftrightarrow mv > 2a_1$

$P = \frac{1}{4}$



$$P = \frac{1}{4}$$



$xy < 0{,}09$

$y < \frac{0{,}09}{x}$

$xy = 0{,}09$

$x + y = 1$

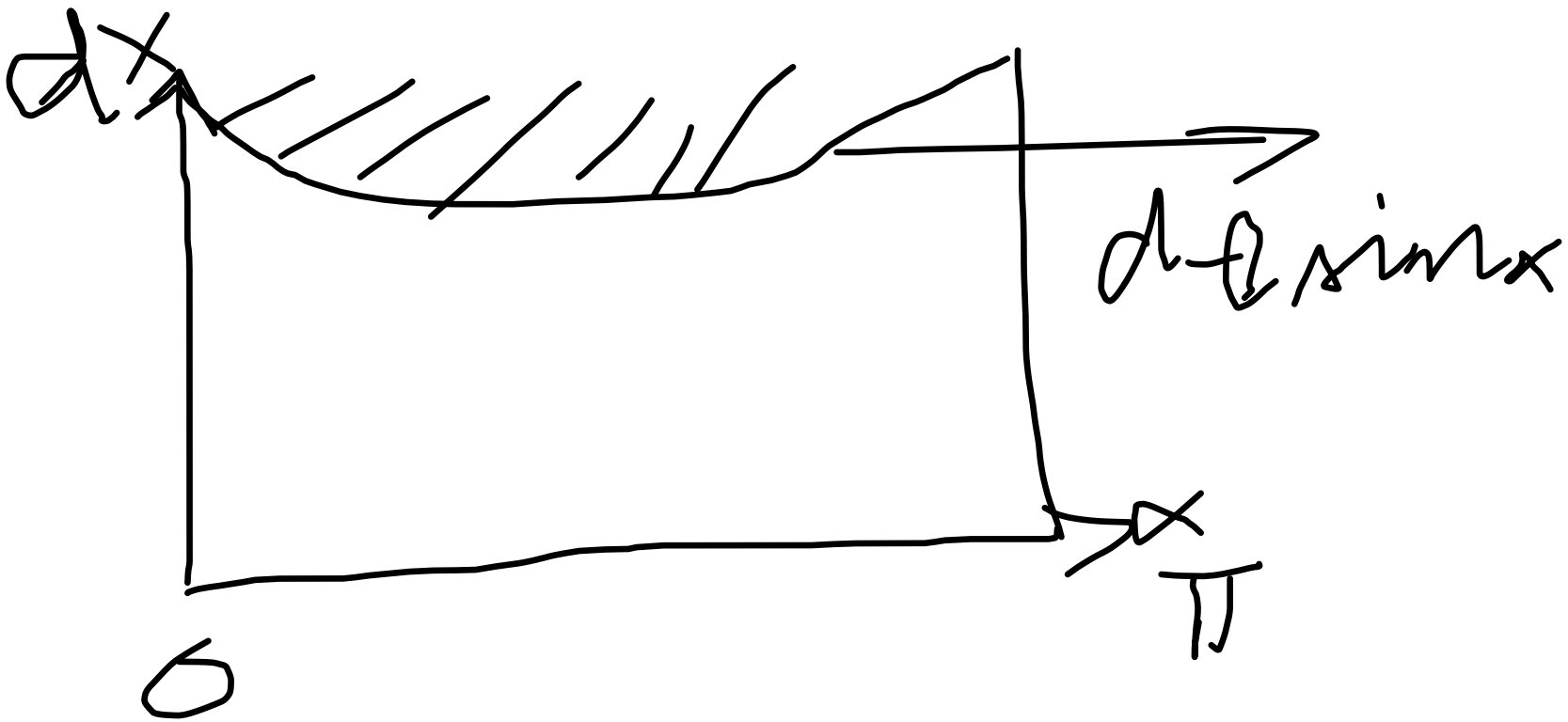
$x(1-x) = 0{,}09$

$x^2 - x + 0{,}09 = 0$

$x = \frac{1 \pm \sqrt{0{,}64}}{2} = 0{,}9$

$$P = 0{,}1 + \int_{0{,}1}^{0{,}9} \frac{0{,}09}{x}\,dx = 0{,}1 + \left[0{,}09 \ln x\right]_{0{,}1}^{0{,}9} =$$

$$= 0{,}1 + 0{,}09 \ln 9 \doteq 0{,}35$$


dx
dQ sin x
x
π
0