

$$\frac{dm}{dt} = -k m$$

$$\frac{dm}{m} = -k dt$$

$$\ln(m) = -kt + C$$

$$m = Ke^{-kt} = m_0 \cdot e^{-kt}$$

$$\frac{1}{2} m_0 = m_0 e^{-k t_{\frac{1}{2}}}$$

$$t_{\frac{1}{2}} = 87,5$$

$$e^{-k t_{\frac{1}{2}}} = \frac{1}{2}$$

$$-k t_{\frac{1}{2}} = \ln\left(\frac{1}{2}\right)$$

$$k = \frac{\ln(2)}{87,5}$$

$$m_0 e^{-kt} = 0,9 m_0$$

$$e^{-kt} = 0,9$$

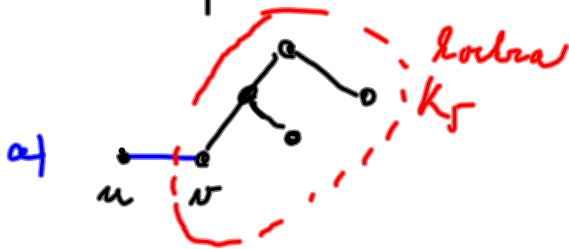
$$-kt = \ln(0,9)$$

$$t = -87,5 \cdot \frac{\ln(0,9)}{\ln(2)}$$

m_0 - 2 molnast
v casu $k=0$

(3)

$$6^4 - (2 \cdot 5^3 + 2 \cdot 4 \cdot 4^2 + 6 \cdot 3 \cdot 3) = 864$$

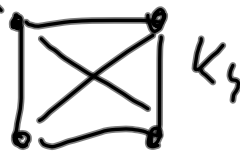
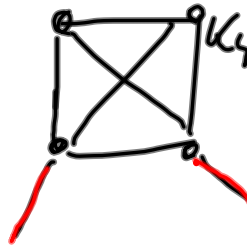
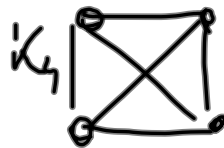


$$e^{-\frac{\ln(2)}{5}d} = 5 e^{-\frac{\ln(2)}{4} \cdot d}$$

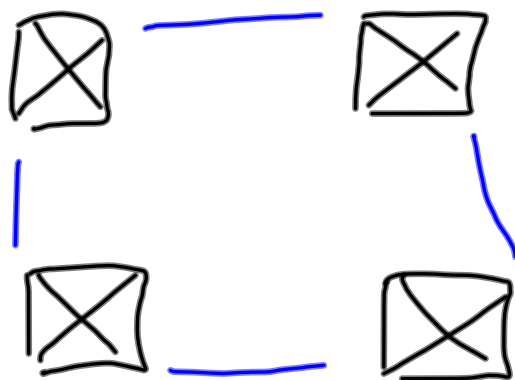
$$-\frac{\ln(2)}{5}d = \ln 5 - \frac{\ln(2)}{4}d$$

$$\frac{4}{5} \ln(2)d = \ln(5)$$

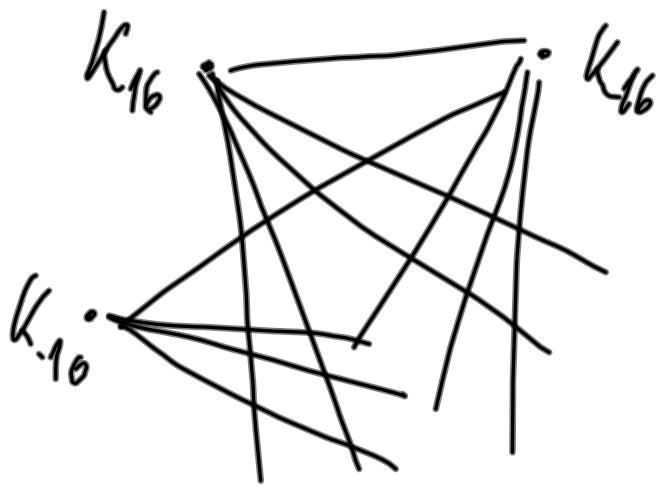
$$d = \frac{5}{4} \frac{\ln(5)}{\ln(2)}$$



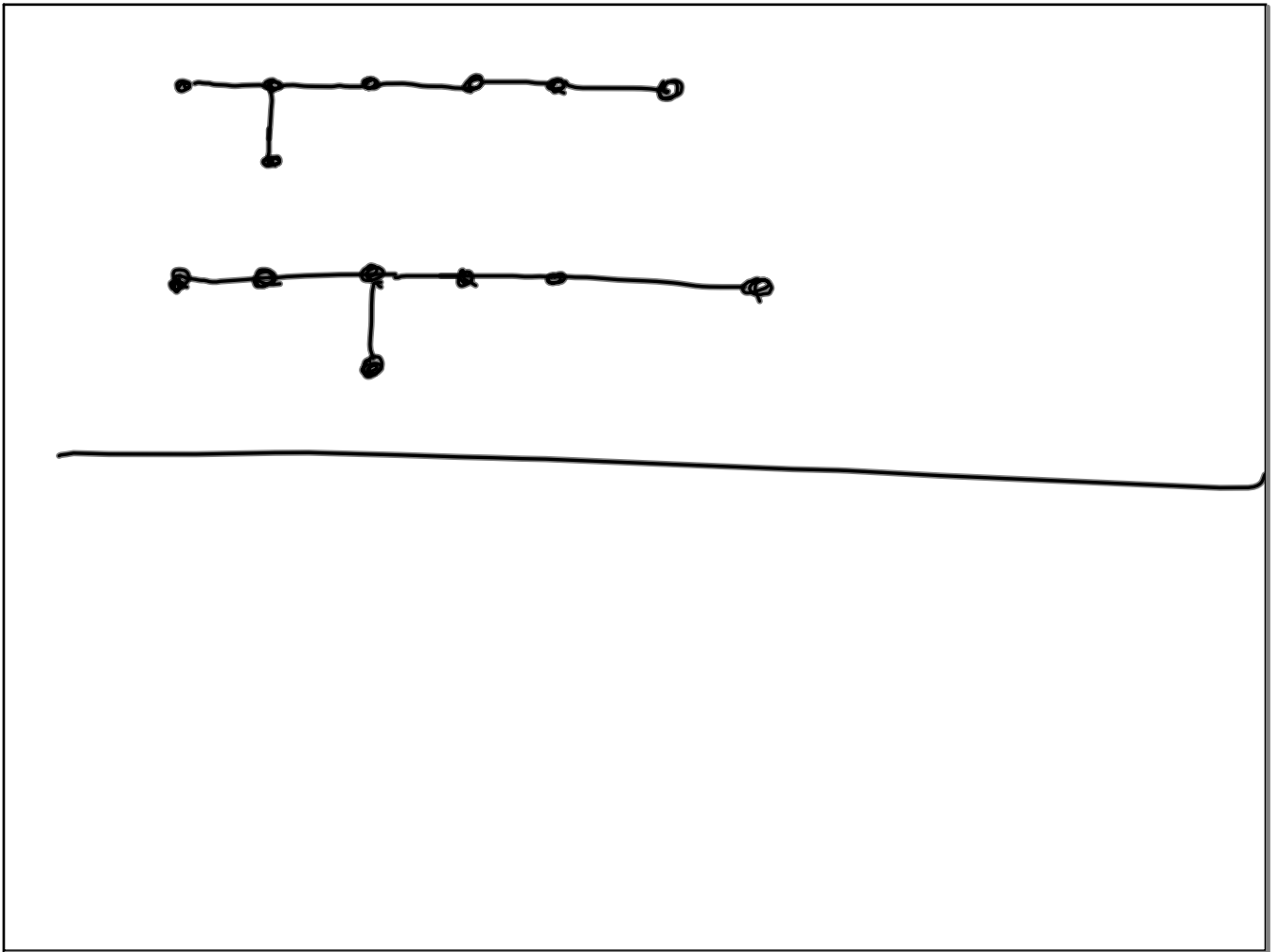
$$3 \cdot \binom{4^2}{4}^3 \cdot 3 \binom{2 \cdot 3 + 2}{\binom{4^2}{2}}$$

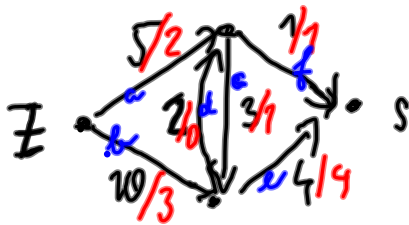


$$4 \cdot (4^2)^3 \cdot 8 = 2^2 (2^{12}) \cdot 2^3 = 2^{17}$$



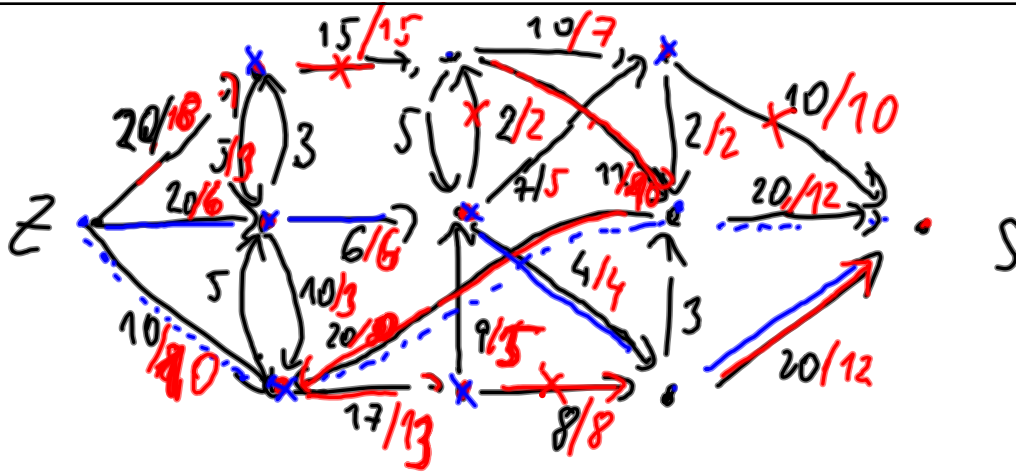
$$\left(16^{14} \right)^{16} \cdot 16^{24} = 16^{14 \cdot 17}$$





Rizny grafov: ¹¹
 $\{a, b\}$, $\{a, d, e\}$,
 $\{c, f\}$, $\{b, f, e\}$

Kez je množina hran satová, je po jejím odstranění
 rekonstruovat cestu z do S (orientovaně)
 a navíc přidáním opět libovolné hrany z této množiny
 jdi určitě cesta z do S .



Maximalni tok = 34