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a)

$$y = C \cdot a^x$$

↑
1013

När trycket har halverats

$$\frac{1013}{2} = 1013 \cdot a^{5,8}$$

$$\frac{1013}{2 \cdot 1013} = a^{5,8}$$

$$\left(\frac{1}{2}\right)^1 = a^{5,8}$$

$$\left(\frac{1}{2}\right)^{\frac{1}{5,8}} = a$$

$$0,5^{\frac{1}{5,8}} = a$$

Åter till $y = C \cdot a^x$

$$y = 1013 \cdot \left(0,5^{\frac{1}{5,8}}\right)^h$$

$$p = 1013 \cdot 0,5^{\frac{h}{5,8}}$$

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$$b) \quad p = 1013 \cdot 0,5^{h/5,8}$$

$$= 1013 \cdot 0,5^{15/5,8}$$

$$= 968,69$$

$$\approx 169 \text{ hPa}$$

OBS
glömda
komma
teckin

$$c) \quad p = 1013 \cdot 0,5^{h/5,8}$$

$$250 = 1013 \cdot 0,5^{h/5,8}$$

$$\left(\frac{250}{1013}\right)^{5,8} = 0,5^{h/5,8}$$

$$\left(\frac{250}{1013}\right)^{5,8} = 0,5^h$$

$$5,8 \log \left(\frac{250}{1013}\right) = h \log 0,5$$

$$\frac{5,8 \log \left(\frac{250}{1013}\right)}{\log 0,5} = h$$

$$\log 0,5$$

$$= 11,7 \text{ km}$$