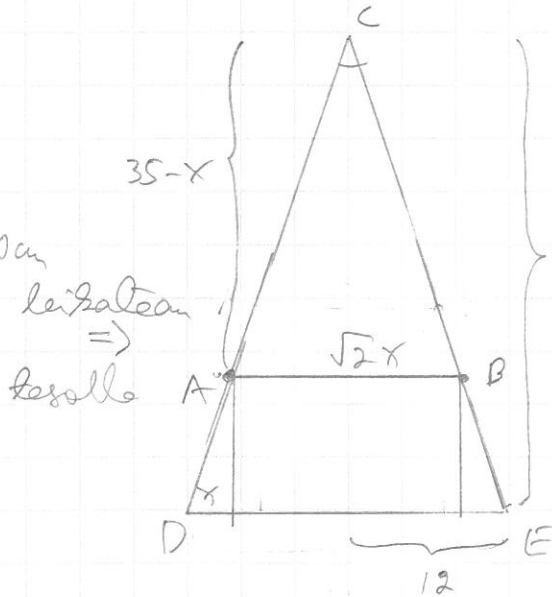
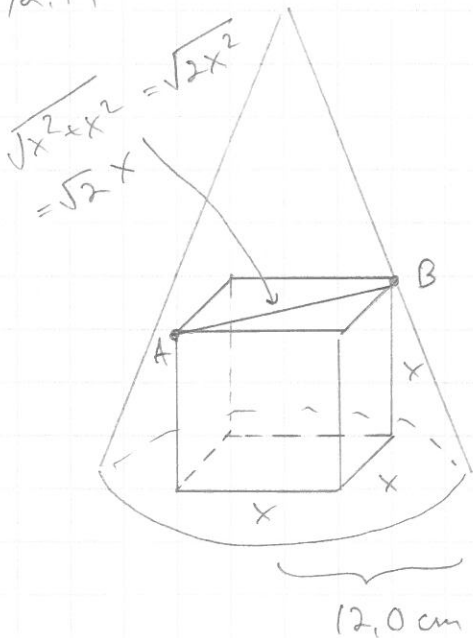


12.14



$\triangle DEC \sim ABC$   
(22)  
10° Cylindern  
35 2° & A = ~~D~~  
(Name Soltau  
sel Kulmat, AB||  
(DE))

Leitatem  
=>  
Ähnliche

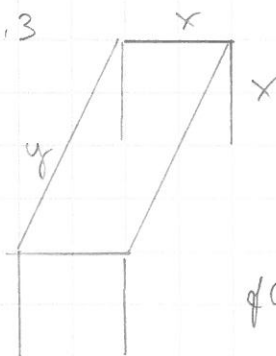
$$\frac{35}{24} = \frac{35-x}{\sqrt{2}x} \quad | \times$$

$$\begin{aligned} \Rightarrow 35 \cdot \sqrt{2}x &= 24(35-x) \\ \Rightarrow 35\sqrt{2}x &= 24 \cdot 35 - 24x \\ \Rightarrow (35\sqrt{2} + 24)x &= 24 \cdot 35 \quad | :(\ ) \end{aligned}$$

$$\Rightarrow x = \frac{24 \cdot 35}{35\sqrt{2} + 24} \approx 11,4290 \approx \underline{11,4 \text{ (cm)}}$$

### 13. Ärariwoswolluaria

13.3



tilavuus:  $V = x^2 y = 48 \quad | : x^2 \Rightarrow y = \frac{48}{x^2}$

rajatilanteet:  $\begin{cases} x = 0 \\ y = \frac{48}{x^2} = 0 \text{ ei ole.} \end{cases}$

Pitteen kulma:

$$f(x) = 6x + 2y = 6x + 2 \cdot \frac{48}{x^2} = 6x + \frac{96}{x^2}$$

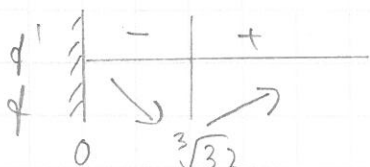
f jalk. -jo deriiv. -kun  $x > 0$

$$f'(x) = 6 + \frac{0 \cdot x^2 - 96 \cdot 2x}{(x^2)^2} = 6 - \frac{192x}{x^4}$$

$$= 6 - \frac{192}{x^3} = 0 \quad | \cdot x^3 \Rightarrow 6x^3 - 192 = 0$$

$$\Rightarrow x^3 = \frac{192}{6} = 32 \quad | \sqrt[3]{\quad} \Rightarrow x = \sqrt[3]{32} \approx 3,1748$$

$$\boxed{D \frac{f}{g} = \frac{f'g - fg'}{g^2}}$$



$$f'(1) = -186 < 0, \quad f'(4) = 3 > 0$$

$$y = \frac{48}{(\sqrt[3]{32})^2} \approx 4,7622$$

min Var. Päätykulman mää:  $x \approx 3,17 \text{ m}$  ja pituus:  $y \approx 4,76 \text{ m}$