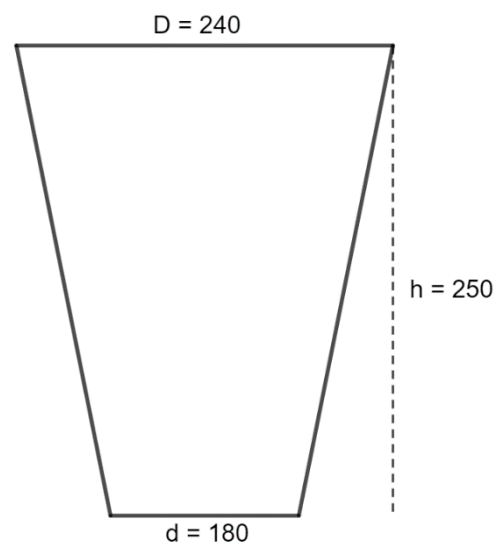
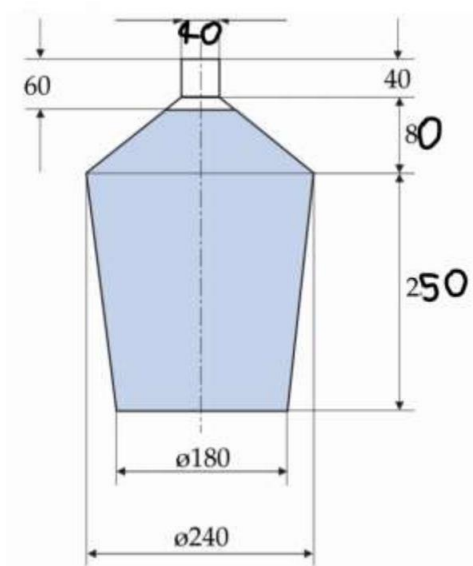


	Navn:		Skole:	
	Klasse: 20		Dato: 10. maj 2021	Fag: Matematik A

## Opgave 199

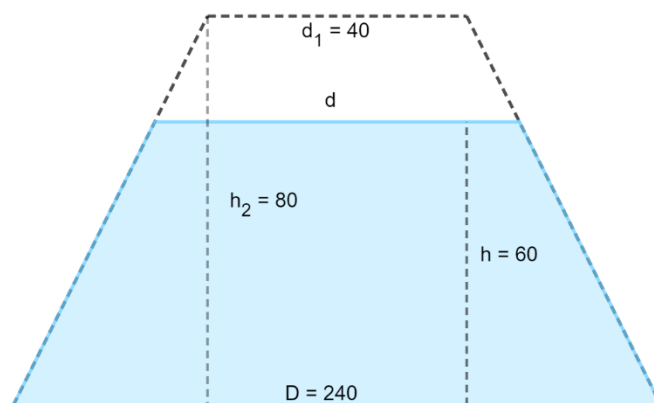


$$\begin{aligned}
 d &= 180 \\
 D &= 240 \\
 r &= \frac{d}{2} = 90 \\
 R &= \frac{D}{2} = 120 \\
 h &= 250
 \end{aligned}$$

$$\begin{aligned}
 V_{bund} &= \frac{1}{3} \cdot \pi \cdot h \cdot (r^2 + R^2 + r \cdot R) \\
 V_{bund} &= \frac{1}{3} \cdot \pi \cdot 250 \cdot (90^2 + 120^2 + 90 \cdot 120) && | \text{Indsæt tal} \\
 V_{bund} &= \frac{1}{3} \cdot \pi \cdot 250 \cdot (8100 + 14400 + 90 \cdot 120) && | \text{Potens} \\
 V_{bund} &= \frac{1}{3} \cdot \pi \cdot 250 \cdot (8100 + 14400 + 10800) && | \text{Gange} \\
 V_{bund} &= \frac{1}{3} \cdot \pi \cdot 250 \cdot 33300 && | \text{Plus} \\
 V_{bund} &= 8717919.61 && | \text{Gange}
 \end{aligned}$$

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$$\begin{aligned}
 d_1 &= 40 \\
 D &= 240 \\
 R &= \frac{D}{2} = 120 \\
 h_2 &= 80 \\
 h &= 60
 \end{aligned}$$



$$\begin{aligned}
 d &= D - \frac{(D - d_1) \cdot h}{h_2} \\
 d &= 240 - \frac{(240 - 40) \cdot 60}{80} && | \text{Indsæt tal} \\
 d &= 240 - \frac{200 \cdot 60}{80} && | \text{Minus} \\
 d &= 240 - \frac{12000}{80} && | \text{Gange} \\
 d &= 240 - 150 && | \text{Brøk} \\
 d &= 90 && | \text{Minus}
 \end{aligned}$$

$$r = \frac{d}{2} = 45$$

$$\begin{aligned}
 V_{top} &= \frac{1}{3} \cdot \pi \cdot h \cdot (r^2 + R^2 + r \cdot R) \\
 V_{top} &= \frac{1}{3} \cdot \pi \cdot 60 \cdot (45^2 + 120^2 + 45 \cdot 120) && | \text{Indsæt tal} \\
 V_{top} &= \frac{1}{3} \cdot \pi \cdot 60 \cdot (2025 + 14400 + 45 \cdot 120) && | \text{Potens} \\
 V_{top} &= \frac{1}{3} \cdot \pi \cdot 60 \cdot (2025 + 14400 + 5400) && | \text{Gange} \\
 V_{top} &= \frac{1}{3} \cdot \pi \cdot 60 \cdot 21825 && | \text{Plus} \\
 V_{top} &= 1371305.19 && | \text{Gange}
 \end{aligned}$$

$$\begin{aligned}
 V_{total} &= V_{bund} + V_{top} \\
 V_{total} &= 8717919.61 + 1371305.19 && | \text{Indsæt tal} \\
 V_{total} &= 10089224.81 && | \text{Plus}
 \end{aligned}$$