

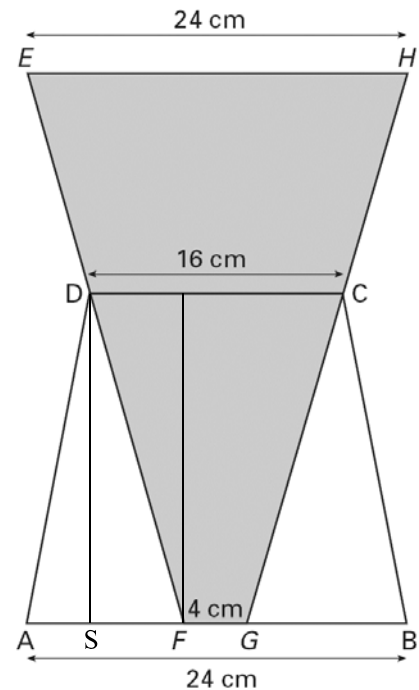
Eindexamen wiskunde B1-2 havo 2004-I

© havovwo.nl

Vaas

19. De vaas wordt $16 - 4 \text{ cm} = 12 \text{ cm}$ breder in 21 cm,
 dus wordt hij $24 - 4 \text{ cm} = 20 \text{ cm}$ breder in $\frac{20 \cdot 21}{12} \text{ cm} = 35 \text{ cm}$
 (want $12 \text{ cm} \hat{=} 21 \text{ cm}$ en $20 \text{ cm} \hat{=} x \text{ cm}$)

20. $SF = (16 - 4) \cdot \frac{1}{2} = 6$
 en dus geldt $AS = \frac{1}{2} \cdot (24 - 2 \cdot SF - FG) =$
 $= \frac{1}{2} \cdot (24 - 12 - 4) = 4$
 $\angle ADF = \angle ADS + \angle SDF$
 $\tan(\angle ADS) = \frac{4}{21} \rightarrow \angle ADS = 10,78^\circ$
 $\tan(\angle SDF) = \frac{6}{21} \rightarrow \angle SDF = 15,95^\circ$
 $\rightarrow \angle ADF = 10,78^\circ + 15,95^\circ = 26,7^\circ$



21. $R = 2r \rightarrow 2r = -\frac{1}{2}r + \sqrt{\frac{3 \cdot 5000}{30\pi} - \frac{3}{4} \cdot r^2}$

$$159,155 - \frac{3}{4} \cdot r^2 = (2r + \frac{1}{2}r)^2 = 6\frac{1}{4}r^2 \rightarrow r^2 = \frac{1}{7} \cdot 159,155 \rightarrow r = 4,768$$

$$\rightarrow R = 2 \cdot 4,768 = 9,537$$

Dus er geldt dan $r = 4,8 \text{ cm}$ en $R = 9,5 \text{ cm}$