

Examen Wiskunde tl 2023

Tuimelaar

2P 1) inhoud kegel = $\frac{1}{3} \cdot \text{opp grondvlak} \cdot \text{hoogte}$
opp. cirkel = $\pi \cdot \text{straal}^2$

$$\begin{aligned}\text{opp. cirkel} &= \pi \cdot 5^2 \\ &= 25\pi\end{aligned}$$

$$\begin{aligned}\text{inhoud kegel} &= \frac{1}{3} \cdot 25\pi \cdot 10 \\ &= 261,799\dots \\ &\approx 262\end{aligned}$$

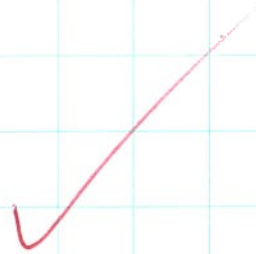
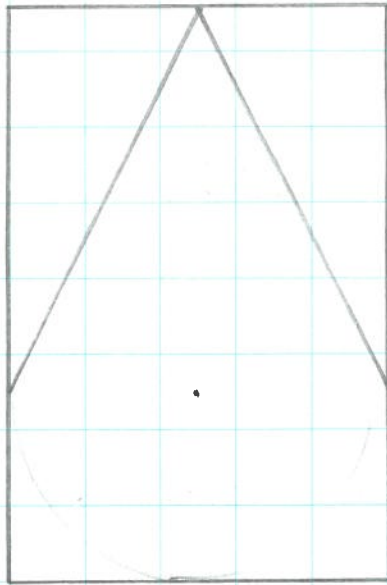


3P 2) inhoud bol = $\frac{4}{3} \cdot \pi \cdot r^3$
 $\frac{1}{2}$ inhoud bol = $\frac{1}{2} \cdot \frac{4}{3} \cdot \pi \cdot r^3$
 $= \frac{2}{3} \cdot \pi \cdot 5^3$
 $= 261,80$



3P.

3)



4P

4)

$$135 \text{ dm}^3 = 1350 \text{ cm}^3$$

$$1350 = \frac{1}{6} \cdot \pi \cdot \text{diameter}^3$$

$$8100 = \pi \cdot \text{diameter}^3$$

$$\frac{8100}{\pi} = \text{diameter}^3$$

$$\text{diameter} = \sqrt[3]{\frac{8100}{\pi}}$$

$$\text{diameter} = 13,7 \text{ cm}$$



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Digitale munt

2P 5) $1104 : 1,2378 = 891,90$ ✓

2P 6) $\cancel{1104} : 10 \cdot 100 = 11040\%$ ✓

1P 7) 48% ✓

2P 8) $10 \cdot 1,48'' = 746,24$ ✓

3P 9) $10 \cdot 1,48^5 = 71,01$
 $10 \cdot 1,48^{10} = 504,22$
 $10 \cdot 1,48^7 = 155,54$
 $10 \cdot 1,48^9 = 340,69$
 $10 \cdot 1,48^8 = 230,19$

dus na 9 maanden

3P 10) $1350 - 370 = 980$
~~80~~ ~~79~~ dagen Schrikkeljaar ☹
 $980 : 72 = 12,41$

$E = 1350 - \cancel{1241}d$

Ocean Clean up

2P 12) $(1,6 \cdot 10^6) : (41,5 \times 10^3) = 38,55$

2P 13) $1800.000.000.000 \cdot 0,95 =$
 $1800 \cdot 10^9 \cdot 0,95 = 1,71 \cdot 10^{12}$ ✓
1710 miljard

4P 15) Omtrek cirkel = diameter $\cdot \pi$
 $\frac{1}{3}$ Omtrek cirkel = $\frac{1}{3} \cdot \text{diameter} \cdot \pi$
opp. FGC A = $3,2 \cdot \frac{1}{3} \cdot 2r \cdot \pi$
" = $3,2 \cdot \frac{2}{3} \cdot 153 \cdot \pi$
" = $1025,42 \text{ m}^2$ ✓

4P 16) Precies in het midden van AC is punt M.
hoek A = hoek C = $(180 - 120) : 2 = 30^\circ$
We kunnen een recht hoekige Δ maken met AMC en
 $m = 90^\circ$, $A = 30^\circ$ en $C = 60^\circ$.
 $Am \Rightarrow \sin = \frac{O}{L} \Rightarrow \sin 60 = \frac{O}{153} \Rightarrow O = \sin 60 \cdot 153$
 $Am = \sin 60 \cdot 153 = 132,5$
 $Cm = Am = 132,5$
 $Am + cm = AC = 132,5 + 132,5 = 265 \text{ m}$ ✓

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Waterglijdaan

2P

17)

Foto echt

bootje 1 cm 1,2 m = 120 cm

start 6 cm 720 cm = 7,2 m ✓

 $\xrightarrow{\times 120}$

2P

18)

$$h = 0,2 \cdot 0^2 - 2 \cdot 0 + 5$$

$$h = 0 - 0 + 5$$

$$h = 5 \text{ meter} \quad \checkmark$$

2P

19)

$$h = 0,2 \cdot \cancel{1^2} - 2 \cdot \cancel{1} + 5$$

$$h = 0,2 - 2 + 5$$

$$h = 3,2 \text{ meter}$$

1P

20

6 sec. 3,2 m

$$\cancel{6} \text{ sec} \quad 3,2 \cdot 0,8 = 2,56 \text{ m} \quad \checkmark$$

Tankopslag

3P

23)

$$\text{hoogte} = 22 \text{ m}$$

$$\text{inhoud} = 110\,000 \text{ m}^3$$

$$\text{inhoud cilinder} = \text{opp. grondvlak} \cdot \text{hoogte}$$

$$110\,000 = \text{opp. grondvlak} \cdot 22$$

$$5000 = \text{opp. grondvlak}$$

$$\text{opp. cirkel} = \pi r^2$$

$$5000 = \pi r^2$$

$$\frac{5000}{\pi} = r^2$$

$$r = \sqrt{\frac{5000}{\pi}}$$

$$r = 39,89$$

straal is 40 meter



3P

24)

$$1 \text{ tank } 110\,000 \text{ m}^3$$

$$\text{dm}^3 = \text{L}$$

$$110\,000 \text{ m}^3 = 110\,000\,000 \text{ L}$$

$$1,1 \cdot 10^8 \cdot 39 = 4,29 \cdot 10^9$$





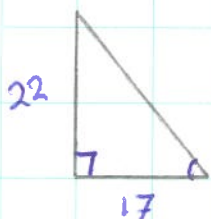
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Cijfer:

3P 25)

sos cos toa

$$\tan = \frac{o}{a}$$

$$\tan = \frac{22}{17}$$

$$\tan^{-1}\left(\frac{22}{17}\right) = 52,3^\circ$$



