

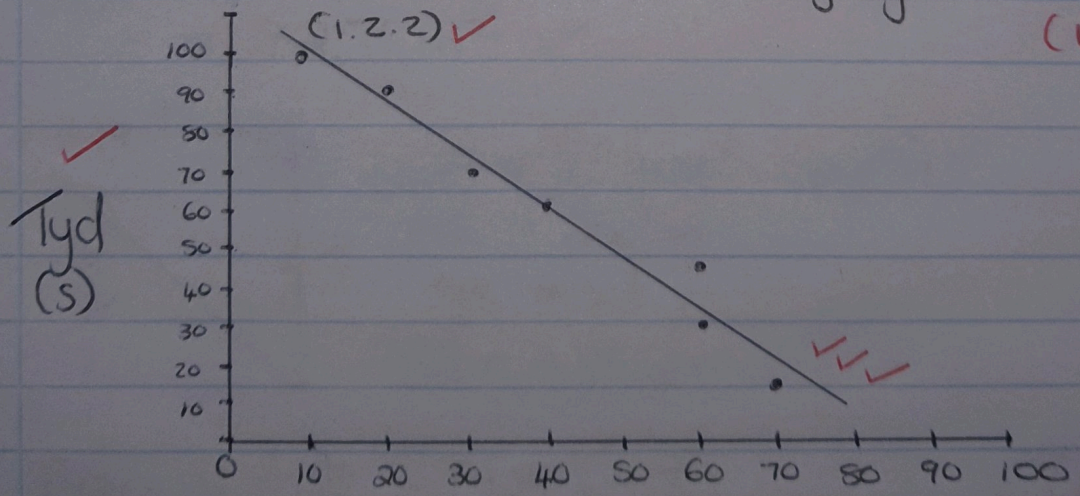
Graad 9: November Ur. 2 (2021)
Memo.

Vraag 1

Punte.

- 1.1.1) 23 ✓ (1)
- 1.1.2) $\bar{x} = \frac{1363}{23}$ ✓
 $= 59,26$
 ≈ 59 kbeldronke. ✓ (2)
- 1.1.3) 65 ✓ (1)
- 1.1.4) 55 ✓ ✓ (2)
- 1.1.5) 199 ✓ (1)
- 1.1.6) Die uitstier verhoog die gemiddeld. (1)

1.2.1) Trein se snelheid - tyd grafiek



- (1) ✓ opskrif
- ✓ y-as opskrif + indeling
- ✓ x-as opskrif + indeling
- ✓ punte reg geplot

- 1.2.3) Sterk negatiewe korrelasie ✓ (6)
- (2)
- [17]

Vraag 2

Punte

- 2.1.1) 2 500 000 mm ✓ (1)
2.1.2) 0,002143 km² ✓ (1)
2.1.3) 89 150 000 000 mm³ ✓ (1)
2.1.4) 0,555 kl = 555 l ✓ (1)

2.2.1) Omtrek = $3(40) + \frac{2 \cdot \pi \cdot (20)}{2}$
 $= 182,83 \text{ cm}$ ✓ (4)

✓ Sye van vierkant

✓ $r = 20 \text{ cm}$

✓ $\frac{2\pi r}{2}$ formule

2.2.2) Oppv = $(40 \times 40) + \frac{\pi \cdot (20)^2}{2}$
 $= 2228,32 \text{ cm}^2$ ✓

✓ antwoord.

✓ oppv. vierkant

✓ $\pi \cdot (20)^2$

✓ $\div 2$

(4)

✓ antwoord.

2.3) $DE^2 = 7^2 - 5^2$ (pyth) ✓
 $DE = \sqrt{24}$
 $= 4,90 \text{ m}$ ✓

✓ pyth

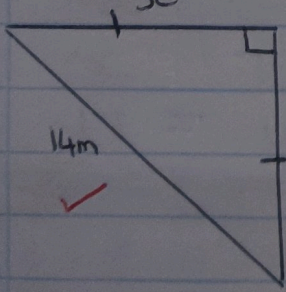
✓ $900 \text{ cm} = 9 \text{ m}$

✓ oppv van beide Δ^e

beide Δ^e

antwoord.

Oppv = $(\frac{1}{2} \times 10 \times 9) - (\frac{1}{2} \times 5 \times 4,90)$
 $= 32,75 \text{ m}^2$ ✓ (6)

2.4)  $(14)^2 = x^2 + x^2$ (pyth) ✓
 $196 = 2x^2$ ✓
 $98 = x^2$
 $7\sqrt{2} \text{ m} = x$ ✓

Area = $\pi \cdot (7)^2 - (7\sqrt{2} \times 7\sqrt{2})$ (8)
 $= 55,94 \text{ m}^2$ ✓

[26]

Vraag 3

Punte

$$3.1.1) V = (20 \times 8 \times 10) - \frac{1}{2} (\pi \cdot 5^2 \times 10) \\ = 1207,30 \text{ m}^3 \quad (5)$$

$$3.1.2) (2)^3 = 8$$

Volume sal met n skaalfaktor van 8
vergroot. (2)

$$3.2) \begin{cases} 1 \text{ ml} = 1 \text{ cm}^3 \\ 1 \text{ kl} = 1 \text{ m}^3 \end{cases}$$

$$\text{Volume} = \pi \cdot (9)^2 \cdot 10 \\ = 2544,69 \text{ cm}^3 \\ = 0,00254469 \text{ m}^3$$

houer kan 2,54469 l water inhoud.
houer is groot genoeg. (5)

[12]

Vraag 4

$$4.1) \frac{PQ}{MN} = \frac{QR}{NO} = \frac{PR}{MO} \quad (\triangle PQR \parallel \triangle MNO)$$

$$\frac{x}{17} = \frac{75}{y} = \frac{69}{23}$$

$$\frac{x}{17} = \frac{69}{23} \quad \text{en}$$

$$23x = 1173$$

$$x = 51 \text{ eenhede}$$

$$\frac{75}{y} = \frac{69}{23}$$

$$69y = 1725$$

$$y = 25 \text{ eenhede}$$

(4)

4.2.1) In $\triangle ABC$ en $\triangle DEC$

1) $\hat{A}CB = \hat{D}CE$ (rechterstaande \angle) ✓

2) $\hat{A} = \hat{D}$ (gegeve) ✓

3) $\hat{B} = \hat{E}$ (binne \angle van D) ✓

$\therefore \triangle ABC \parallel \triangle DEC$ (L;L;L) ✓ (4)

4.2.2) $\frac{AB}{DE} = \frac{BC}{EC} = \frac{AC}{DC}$ ($\triangle ABC \parallel \triangle DEC$) ✓

$\frac{8}{12} = \frac{5}{y} = \frac{x}{15}$ ✓

$\frac{8}{12} = \frac{5}{y}$ en $\frac{8}{12} = \frac{x}{15}$ ✓

$8y = 60$ ✓

$y = 7,5$ eenhede

$12x = 120$ ✓

$x = 10$ eenhede.

(4)

4.3.1) Vals ✓

(1)

4.3.2) Vals ✓, dit is nie 'n ingeslote hoek nie (1)

4.4.1) In $\triangle AOC$ en $\triangle BOC$

1) $AC = BC$ (gegeve) ✓

2) OC is gemeen ✓

3) $AO = OB$ (radii) ✓

$\therefore \triangle AOC \cong \triangle BOC$ (S;S;S) ✓

(4)

4.4.2) $\frac{AO}{BO} = \frac{OC}{OC} = \frac{AC}{BC}$ ($\triangle AOC \equiv \triangle BOC$)

$\frac{AO}{BO} = \frac{AC}{BC}$
 $AC \cdot BO = AO \cdot BC$ (2)

Total : [20]
: [15]