

Hersiening Inoefening Vaslegging
Graad 7 – Kwartaal 2 – 2024
EkspONENTE en negatiewe heelgetalle
MEMORANDUM

Afdeling A – EkspONENTE

- | | | | | |
|-----|---|-------|-----------------|-----|
| 1.1 | $2 \times 2 \times 2 \times 2 = 16$ | en | $2^4 = 16$ | (2) |
| 1.2 | $3 \times 3 \times 3 = 27$ | en | $3^3 = 27$ | (2) |
| 1.3 | $4 \times 4 \times 4 \times 4 = 256$ | en | $4^4 = 256$ | (2) |
| 1.4 | $5 \times 5 \times 5 = 125$ | en | $5^3 = 125$ | (2) |
| 1.5 | $10 \times 10 \times 10 = 1\ 000$ | en | $10^3 = 1\ 000$ | (2) |
| 1.6 | $1 \times 1 \times 1 \times 1 \times 1 = 1$ | en | $1^5 = 1$ | (2) |
| | | | | |
| 2.1 | $\sqrt{4} = 2$ | en | $2^2 = 4$ | (2) |
| 2.2 | $\sqrt{16} = 4$ | en | $4^2 = 16$ | (2) |
| 2.3 | $\sqrt{49} = 7$ | en | $7^2 = 49$ | (2) |
| 2.4 | $\sqrt{144} = 12$ | en | $12^2 = 144$ | (2) |
| 2.5 | $\sqrt[3]{64} = 4$ | en | $4^3 = 64$ | (2) |
| 2.6 | $\sqrt[3]{125} = 5$ | en | $5^3 = 125$ | (2) |
| 2.7 | $\sqrt[3]{216} = 6$ | en | $6^3 = 216$ | (2) |
| 2.8 | $\sqrt[3]{1} = 1$ | en | $1^3 = 1$ | (2) |
| | | | | |
| 3.1 | $2 \times 2 \times 2$ | 2^3 | | (1) |
| 3.2 | $3 \times 3 \times 3 \times 3 \times 3$ | 3^5 | | (1) |
| 3.3 | $7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7$ | 7^7 | | (1) |
| 3.4 | $n \times n \times n \times n \times n$ | n^5 | | (1) |
| | | | | |
| 4.1 | $1^2 = 1 \times 1 = 1$ | | | (1) |
| 4.2 | $5^2 = 5 \times 5 = 25$ | | | (2) |
| 4.3 | $8^2 = 8 \times 8 = 64$ | | | (2) |
| 4.4 | $20^2 = 20 \times 20 = 400$ | | | (1) |
| 4.5 | $1^3 = 1 \times 1 \times 1 = 1$ | | | (1) |
| 4.6 | $4^3 = 4 \times 4 \times 4 = 64$ | | | (2) |
| 4.7 | $10^3 = 10 \times 10 \times 10 = 1\ 000$ | | | (2) |
| 4.8 | $30^3 = 30 \times 30 \times 30 = 27\ 000$ | | | (2) |

2.

$$5.1 \sqrt{9} = 3$$

$$5.3 \sqrt[3]{8} = 2$$

$$5.5 \sqrt{900} = 30$$

$$5.2 \sqrt{196} = 14$$

$$5.4 \sqrt[3]{1000} = 10$$

$$5.6 \sqrt{2500} = 50 \quad (6)$$

$$6.1 5^2 = 5 \times 5 = 25 \quad (2)$$

$$6.2 7^0 = \text{Is altyd } 1 \quad (1)$$

$$6.3 8^2 \div 4^2 = 8 \times 8 \div 4 \times 4 = 64 \div 4 \times 4 = 64 \quad (3)$$

$$6.4 10^3 - 2^3 \times 4^2 = 10 \times 10 \times 10 - 2 \times 2 \times 2 \times 4 \times 4 \\ = 1000 - 128 \\ = 872 \quad (3)$$

$$7.1 6^1 < 2^3$$

$$7.2 1^2 < 2^1$$

$$7.3 4^3 < 3^4$$

$$7.4 3^5 > 5^3 \quad (4)$$

$$8.1 2^4 + 3^3 = 2 \times 2 \times 2 \times 2 + 3 \times 3 \times 3 = 16 + 27 = 43 \quad (3)$$

$$8.2 5^3 - 4^3 = 5 \times 5 \times 5 - 4 \times 4 \times 4 = 125 - 64 = 61 \quad (3)$$

$$8.3 3^4 \div 3^3 + \sqrt[3]{8} = 3 \times 3 \times 3 \times 3 \div 3 \times 3 \times 3 + 2 = 5 \quad (4)$$

$$8.4 (\sqrt[3]{8})^3 = \sqrt[3]{8} \times \sqrt[3]{8} \times \sqrt[3]{8} = 2 \times 2 \times 2 = 8 \quad (3)$$

$$8.5 (\sqrt[3]{64})^3 = \sqrt[3]{64} \times \sqrt[3]{64} \times \sqrt[3]{64} = 4 \times 4 \times 4 = 64 \quad (3)$$

$$8.6 5^2 + \sqrt{10^2} - 1^3 = 5 \times 5 + \sqrt{100} - 1 \times 1 \times 1 = 25 + 10 - 1 = 34 \quad (5)$$

$$9.1 \sqrt{16 + 9} = \sqrt{25} = 5 \quad (2)$$

$$9.2 \sqrt{16} + \sqrt{9} = 4 + 3 = 7 \quad (3)$$

$$9.3 \sqrt{121 - 40} = \sqrt{81} = 9 \quad (2)$$

$$9.4 \sqrt{121} - \sqrt{100} = 11 - 10 = 1 \quad (3)$$

$$10.1 (\sqrt[3]{8})^3 - 2^3 = \sqrt[3]{8} \times \sqrt[3]{8} \times \sqrt[3]{8} - 2 \times 2 \times 2 = 8 - 8 = 0 \quad (3)$$

$$10.2 (\sqrt[3]{27})^3 = \sqrt[3]{27} \times \sqrt[3]{27} \times \sqrt[3]{27} = 3 \times 3 \times 3 = 27 \quad (3)$$

$$10.3 2\sqrt{9} + 4^2 = 2 \times 3 + 4 \times 4 = 6 + 16 = 22 \quad (3)$$

$$10.4 \sqrt{25 + 11} - (\sqrt[3]{4})^3 = \sqrt{36} - 4 = 6 - 4 = 2 \quad (4)$$

$$10.5 3^2 - \sqrt[3]{27} + 12^2 = 3 \times 3 - 3 + 12 \times 12 = 6 + 144 = 150 \quad (4)$$

Afdeling B – Negatiewe getalle

1. Kyk na die lys heelgetalle en beantwoord die vrae:

8; -21; 0; 7; -12; 19; -1; 5; -29

4.

12.1 $12 \times 7 = 84$

12.3 $-12 \times -7 = 84$

12.5 $28 \div 7 = 4$

12.7 $28 \div -7 = -4$

12.2 $12 \times -7 = -84$

12.4 $-12 \times 7 = -84$

12.6 $-28 \div 7 = -4$

12.8 $-28 \div -7 = 4$

(8)

13.1 $36 \times 0 = 0$

13.3 $-36 \times 0 = 0$

13.5 $5 \times 4 \times 3 = 60$

13.7 $5 \times -4 \times 3 = -60$

13.2 $24 \times 1 = 24$

13.4 $-24 \times 1 = -24$

13.6 $-5 \times 4 \times 3 = -60$

13.8 $5 \times 4 \times -3 = -60$

(8)

14.1 **Oop getalsin:** $(R56 + R71) - R100 = x$

Bewerkings: $127 - 100 = 27$

Antwoord: Hy het R27 oor.

(3)

14.2 **Oop getalsin:** $58^{\circ}\text{C} + 89^{\circ}\text{C} = a$

Bewerkings: $58 + 89 = 147$

Antwoord: Die verskil is 147°C .

(3)

14.3 **Oop getalsin:** $3^{\circ}\text{C} + 14^{\circ}\text{C} = y$

Bewerkings: $3 + 14 = 17$

Antwoord: Die temperatuur styg met 17°C .

(3)

14.4 **Oop getalsin:** $10^{\circ}\text{C} - 12^{\circ}\text{C} = z$

Bewerkings: $10 - 12 = -2$

Antwoord: Die nagtemperatuur was -2°C .

(3)