

Vraag 1

Wat word alles beskou as rasionale getalle? (4)

Vraag 2

Sê by elk van die volgende of dit reëel en rasionaal - RR of reëel en irrasioneel is -RI

- a) $\frac{4}{5}; -2$
- b) $\frac{37}{99}; 0,4$
- c) $\sqrt{\frac{121}{64}}; 0,75$
- d) $\frac{22}{7}; \sqrt{33}$
- e) $\sqrt{9}; \sqrt[3]{-27}$
- f) $1 + \sqrt{3}; -\sqrt{5}$
- g) $\sqrt[3]{5}; 2 + \sqrt{10}$
- h) $\sqrt{4}; \frac{1}{8}$
- i) $\sqrt{16}; \sqrt{\frac{100}{144}}$
- j) $\frac{7}{12}; 2,34$

Vraag 3

Sê of die volgende rasionaal of irrasionaal is:

- a) $0,8$
- b) $2\frac{1}{6}$
- c) π
- d) $-\sqrt{3}$

Question 1

What are all seen as rational numbers (4)

Question 2

Says if each of the following is a real and rational - RR or real and irrational - RI

- a) $\frac{4}{5}; -2$
- b) $\frac{37}{99}; 0,4$
- c) $\sqrt{\frac{121}{64}}; 0,75$
- d) $\frac{22}{7}; \sqrt{33}$
- e) $\sqrt{9}; \sqrt[3]{-27}$
- f) $1 + \sqrt{3}; -\sqrt{5}$
- g) $\sqrt[3]{5}; 2 + \sqrt{10}$
- h) $\sqrt{4}; \frac{1}{8}$
- i) $\sqrt{16}; \sqrt{\frac{100}{144}}$
- j) $\frac{7}{12}; 2,34$

Question 3

Is the following rational or irrational:

- a) $0,8$
- b) $2\frac{1}{6}$
- c) π
- d) $-\sqrt{3}$

Vraag 4

Rangskik die volgende getalle in stygende volgorde:

a) $\sqrt{3}; \sqrt[3]{2}; \sqrt[4]{2}; \sqrt{2}$

Vraag 5

Voltooi die tabel:

	N	Z	Q
2	✓	✓	✓
$\sqrt{\frac{9}{16}}$			
$-\pi$			
1,35			
$\sqrt{-2}$			
$\sqrt{3}$			
0,75			

Vraag 6

Bereken die aantal mense/voorwerpe. Rond af tot die naaste telgetal.

- 10% van 210 mense
- 25% van 375 tafels
- 83.5% van 500 babas
- 66.67% van 723 kinders

Vraag 7

- 18% van R383
- Elna koop bloese teen R78,50 en Verkoop dit vir R149,99

Question 4

Arrange the following numbers in ascending order:

a) $\sqrt{3}; \sqrt[3]{2}; \sqrt[4]{2}; \sqrt{2}$

Question 5

Complete the following:

	N	Z	Q
2	✓	✓	✓
$\sqrt{\frac{9}{16}}$			
$-\pi$			
1,35			
$\sqrt{-2}$			
$\sqrt{3}$			
0,75			

Question 6

Calculate the number of people/objects Round off to the nearest whole number.

- 10% of 210 people
- 25% of 375 tables
- 83.5% of 500 babies
- 66.67% of 723 children

Question 7

- 18% of R383
- Elna buys a blouse at R78,50 and sells it for R149,99. Her

Haar ander uitgawes beloop R35,70 per bloes.

- i. Bereken die bedrag wins of verlies wat sy op 'n bloes maak.
- ii. Wat is die persentasie wins/verlies wat sy maak?
- iii. Sy kan die bloes uit Hong Kong invoer wat 35 Kongse Dollar kos. 1 HKD = R 0,9583
Hoeveel rand kos die bloese?

Vraag 8

Hugo koop 'n nuwe skootrekenaar wat gemerk is R5999, maar die winkel Verkoop dit vir 40% minder tydens hul winter verkoping.

- a. Hoeveel afslag in rand kry Hugo?
- b. Hoeveel betaal Hugo in werklikheid vir die skoot rekenaar

Vraag 9

Vereenvoudig

1. $4(5x^2y^2)y^2$
2. $\frac{6k^3}{3k}$
3. $\frac{6a^3}{24am}$
4. $\sqrt[3]{8a^6b^9} \times (3a^2)^2$

Vraag 10

Doen die volgende vir die volgende getalreeks -10;-6;-2;2;.....

other expenses amounts to R35,70 per blouse.

- i. Calculate the amount of profit or loss that she makes on the blouse.
- ii. What is the percentage profit/loss that she makes?
- iii. She can import blouses from Hong Kong that cost 35 Hong Kong Dollar. 1HKD = R 0,9583
How much will the blouse cost?

Question 8

Hugo buys a new laptop that's marked R5999, but the shop is selling it for 40% less as part of their winter sale.

- a. What discount in rand does Hugo receive?
- b. How much does Hugo actually pay for the laptop.

Question 9

Simplify

1. $4(5x^2y^2)y^2$
2. $\frac{6k^3}{3k}$
3. $\frac{6a^3}{24am}$
4. $\sqrt[3]{8a^6b^9} \times (3a^2)^2$

Question 10

Do the following for the following number sequence -10;-6;-2;2;.....

- a Skryf die waardes in 'n tabel.
- b Skryf die patroon vir die eerste vier terme neer.
- c Skryf die algemene reël in algebraïese vorm.
- d Verduidelik in woorde hoe jy hierdie reël gekry het.
- e Bepaal die 200ste term.

Vraag 11

Bereken die vergelyking wat die verhouding tussen die getalle in die boonste ry(x) en die onderste ry (y) voorstel.

X	0	1	2	3	4
y	-3	-6	-9	-12	-15

Vraag 12

Los die onbekende op

- a) $a - 9 = 10$
- b) $-b + 8 = 6$
- c) $-43 + c = -8$
- d) $x + 5 = 15$
- e) $a - 7 = 22$
- f) $b + 16 = -7$

- a Write the values in a table.
- b Write out the pattern for the first four terms.
- c Write the general rule algebraically.
- d Explain in words how you found this rule.
- e Find the 200th term.

Question 11

Determine the rule that describes the relationship between the numbers in the top row (x) and the bottom row (y) in the following tables.

X	0	1	2	3	4
y	-3	-6	-9	-12	-15

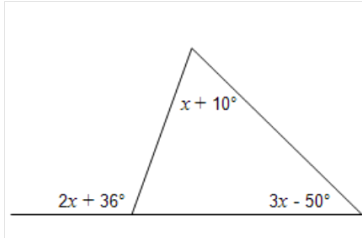
Question 12

Solve for the unknown

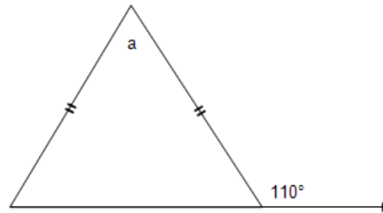
- a) $a - 9 = 10$
- b) $-b + 8 = 6$
- c) $-43 + c = -8$
- d) $x + 5 = 15$
- e) $a - 7 = 22$
- f) $b + 16 = -7$

Vraag 13

A

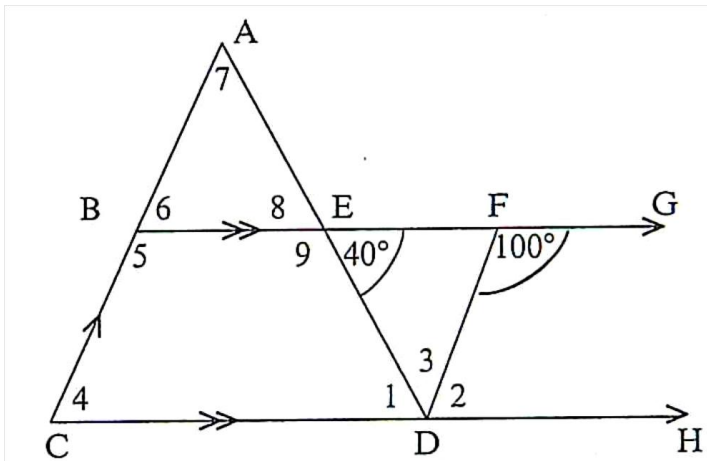


B



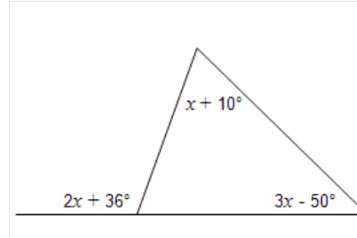
Vraag 14

Bereken die hoeke gemerk 1-9 met redes

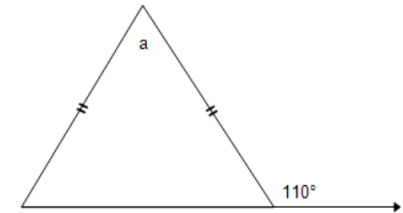


Question 13

A

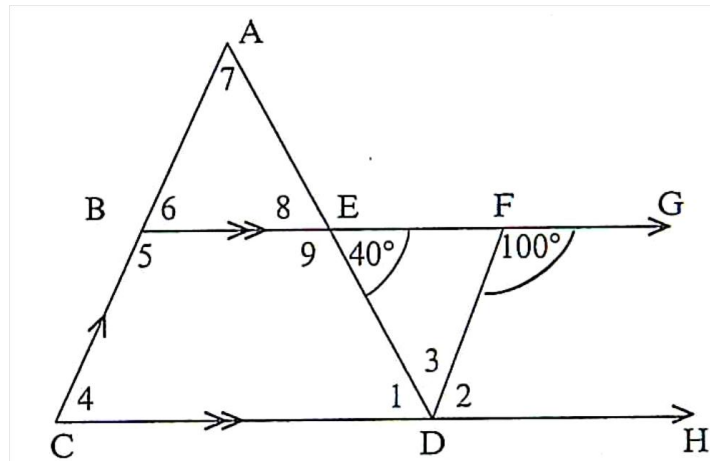


B



Question 14

Determine the angles marked 1-9 and provide reasons



MEMO

Vraag 1

- ✓ Alle heelgetalle
- ✓ Alle breuke
- ✓ Alle eindigende desimale breuke
- ✓ Alle repeterende desimale breuke

Vraag 2

- a) RR
- b) RR
- c) RR
- d) RI
- e) RR
- f) RI
- g) RI
- h) RR
- i) RR
- j) RR

Vraag 3

- a) $0,8\dot{8} = \frac{8}{9}$ *rasionaal*
- b) $2\frac{1}{6} = \frac{13}{6}$ *rasionaal*
- c) $\pi = 3,141 \dots$ *irrasionaal*
- d) $-\sqrt{3} = -1,732 \dots$ *irrasionaal*

Vraag 4

- a) $\sqrt[4]{2} < \sqrt[3]{2} < \sqrt{2} < \sqrt{3}$

MEMO

Question 1

- ✓ All integers
- ✓ All fractions
- ✓ All ending decimal numbers
- ✓ All recurring decimal numbers

Question 2

- a) RR
- b) RR
- c) RR
- d) RI
- e) RR
- f) RI
- g) RI
- h) RR
- i) RR
- j) RR

Question 3

- a) $0,8\dot{8} = \frac{8}{9}$ *rational*
- b) $2\frac{1}{6} = \frac{13}{6}$ *rational*
- c) $\pi = 3,141 \dots$ *irrational*
- d) $-\sqrt{3} = -1,732 \dots$ *irrational*

Question 4

- a) $\sqrt[4]{2} < \sqrt[3]{2} < \sqrt{2} < \sqrt{3}$

Vraag 5

	N	Z	Q
2	✓	✓	✓
$\sqrt{\frac{9}{16}}$	×	×	✓
$-\pi$	×	×	×
1,35	×	×	✓
$\sqrt{-2}$	×	×	×
$\sqrt{3}$	×	×	×
0,75	×	×	✓

Vraag 6

- 21 mense
- 94 tafels
- 418 babas
- 482 kinders

Vraag 7

a) $= \frac{18}{100} \times R383$
 $= R68,94$

- Wins
 - $= R149,99 - R 78,50 - R 35,70$
 - $= R 35,79$

(ii) Kosprys $= R 78,50 + R 35,70$
 $= R 114,20$

Question 5

	N	Z	Q
2	✓	✓	✓
$\sqrt{\frac{9}{16}}$	×	×	✓
$-\pi$	×	×	×
1,35	×	×	✓
$\sqrt{-2}$	×	×	×
$\sqrt{3}$	×	×	×
0,75	×	×	✓

Question 6

- 21 people
- 94 tables
- 418 babies
- 482 children

Question 7

a) $= \frac{18}{100} \times R383$
 $= R68,94$

- Profit
 - $= R149,99 - R 78,50 - R 35,70$
 - $= R 35,79$

(ii) Cost-Price $= R 78,50 + R 35,70$
 $= R 114,20$

$$\begin{aligned}
 \text{(iii) \% wins} \\
 &= \frac{R35.70}{R114.20} \times 100 \\
 &= 31.3\%
 \end{aligned}$$

Vraag 8

- a. 40% van R 5999
 $= \frac{40}{100} \times R5999$
 $= R2399.60$
- b. R 5999 – 2399.60
 $= R3599.40$

Vraag 9

1. $4(5x^2y^2)y^2 = 20x^2y^4$
2. $\frac{6k^3}{3k} = 2k^2$
3. $\frac{6a^3}{24am} = \frac{a^2}{4m}$
4. $\sqrt[3]{8a^6b^9} \times (3a^2)^2 = 2a^2b^3 \times 9a^4 = 18a^6b^3$

$$\begin{aligned}
 \text{(iii) \% Profit} \\
 &= \frac{R35.70}{R114.20} \times 100 \\
 &= 31.3\%
 \end{aligned}$$

Question 8

- a. 40% of R 5999
 $= \frac{40}{100} \times R5999$
 $= R2399.60$
- b. R 5999 – 2399.60
 $= R3599.40$

Question 9

1. $4(5x^2y^2)y^2 = 20x^2y^4$
2. $\frac{6k^3}{3k} = 2k^2$
3. $\frac{6a^3}{24am} = \frac{a^2}{4m}$
4. $\sqrt[3]{8a^6b^9} \times (3a^2)^2 = 2a^2b^3 \times 9a^4 = 18a^6b^3$

Vraag 10

a

n	1	2	3	4
T_n	-10	-6	-2	2

b $T_1 = -1(1 \times 1) = -1$; $T_2 = -1(2 \times 2) = -4$; $T_3 = -1(3 \times 3) = -9$; $T_4 = -1(4 \times 4) = -16$

c $T_n = -1(n^2)$ or $T_n = -1(n \times n)$

d Ek moet die term met himself vermenigvuldig en met -1

e $T_{200} = -1(200 \times 200) = -40\,000$

Vraag 11

$$Y = -3x - 3$$

Vraag 12

a) $a - 9 = 10$

$$a = 10 + 9$$

$$a = 19$$

b) $-b + 8 = 6$

$$-b = 6 - 8$$

$$-b = -2$$

$$b = 2$$

c) $-43 + c = -8$

$$c = 43 - 8$$

$$c = 35$$

d) $x + 5 = 15$

$$x = 15 - 5$$

$$x = 10$$

Vraag 10

a

n	1	2	3	4
T_n	-10	-6	-2	2

b $T_1 = -1(1 \times 1) = -1$; $T_2 = -1(2 \times 2) = -4$; $T_3 = -1(3 \times 3) = -9$; $T_4 = -1(4 \times 4) = -16$

c $T_n = -1(n^2)$ or $T_n = -1(n \times n)$

d I need to multiply the term number by itself and by -1 to get the answer.

e $T_{200} = -1(200 \times 200) = -40\,000$

Question 11

$$Y = -3x - 3$$

Vraag 12

a) $a - 9 = 10$

$$a = 10 + 9$$

$$a = 19$$

b) $-b + 8 = 6$

$$-b = 6 - 8$$

$$-b = -2$$

$$b = 2$$

c) $-43 + c = -8$

$$c = 43 - 8$$

$$c = 35$$

d) $x + 5 = 15$

$$x = 15 - 5$$

$$x = 10$$

e) $a - 7 = 22$

$$\begin{aligned} \text{e) } a - 7 &= 22 \\ a &= 22 + 7 \\ a &= 29 \end{aligned}$$

$$\begin{aligned} \text{f) } b + 16 &= -7 \\ b &= -7 - 16 \\ b &= -23 \end{aligned}$$

Vraag 13

A

$$\begin{aligned} x + 10^\circ + 3 \times 50^\circ &= 2x + 36^\circ (\text{verlengende } \angle \text{ van}) \\ x + 3x - 2x &= 36^\circ + 50^\circ - 10^\circ \\ 2x &= 76^\circ \\ x &= 38^\circ \end{aligned}$$

B

$$\begin{aligned} p = r &= (180^\circ - 110^\circ) (\text{reguit lyn}) \\ &= 70^\circ (p = r, \text{ gelykbenige}) \\ a &= 180^\circ - 140^\circ (3^\text{de } \Delta = 180^\circ) \\ &= 40^\circ \end{aligned}$$

$$\begin{aligned} a &= 22 + 7 \\ a &= 29 \end{aligned}$$

$$\begin{aligned} \text{f) } b + 16 &= -7 \\ b &= -7 - 16 \\ b &= -23 \end{aligned}$$

Question 13

A

$$\begin{aligned} x + 10^\circ + 3 \times 50^\circ &= 2x + 36^\circ (\text{ext } \angle \text{ of}) \\ x + 3x - 2x &= 36^\circ + 50^\circ - 10^\circ \\ 2x &= 76^\circ \\ x &= 38^\circ \end{aligned}$$

B

$$\begin{aligned} p = r &= (180^\circ - 110^\circ) (\text{straight line}) \\ &= 70^\circ (p = r, \text{ isc}) \\ a &= 180^\circ - 140^\circ (3^\text{rd } \Delta = 180^\circ) \\ &= 40^\circ \end{aligned}$$

Vraag 14

$$\begin{aligned}
 \hat{1} &= 40^\circ && (\text{Verwis. } \angle^e, BG \parallel CH) \\
 \hat{2} + 100^\circ &= 180^\circ && (\text{Ko-binne } \angle^e, BG \parallel CH) \\
 \hat{2} &= 80^\circ \\
 \hat{1} + \hat{2} + \hat{3} &= 180^\circ && (\text{Reguit lyn: CDH}) \\
 40^\circ + 80^\circ + \hat{3} &= 180^\circ \\
 \hat{3} &= 60^\circ \\
 \hat{4} &= \hat{2} && (\text{Ooreenk. } \angle^e, AC \parallel FD) \\
 &= 80^\circ \\
 \hat{5} + \hat{4} &= 180^\circ && (\text{Ko-binne } \angle^e, BE \parallel CD) \\
 \hat{5} &= 100^\circ \\
 \hat{6} &= \hat{4} && (\text{Ooreenk. } \angle^e, BE \parallel CD) \\
 &= 80^\circ \\
 \hat{7} &= \hat{3} && (\text{Verw. } \angle^e, AC \parallel FD) \\
 &= 60^\circ \\
 \hat{8} &= 40^\circ && (\text{Regoorst. } \angle^e) \\
 \hat{8} + \hat{9} &= 180^\circ && (\text{Reguit lyn: AED}) \\
 40^\circ + \hat{9} &= 180^\circ \\
 \hat{9} &= 140^\circ
 \end{aligned}$$

Question 14

$$\begin{aligned}
 \hat{1} &= 40^\circ \\
 \hat{2} + 100^\circ &= 180^\circ && \text{Alt. } \angle\text{'s } BG \parallel CH \\
 \hat{2} &= 80^\circ && \text{Co-int } \angle\text{'s } BG \parallel CH \\
 \hat{1} + \hat{2} + \hat{3} &= 180^\circ && \text{Straight line: CDH} \\
 40^\circ + 80^\circ + \hat{3} &= 180^\circ \\
 \hat{3} &= 60^\circ \\
 \hat{4} &= \hat{2} && \text{Corresp. } \angle\text{'s } AC \parallel FD \\
 &= 80^\circ \\
 \hat{5} + \hat{4} &= 180^\circ && \text{Co-int } \angle\text{'s } BE \parallel CD \\
 \hat{5} &= 100^\circ \\
 \hat{6} &= \hat{4} && \text{Corresp. } \angle\text{'s } BE \parallel CD \\
 &= 80^\circ \\
 \hat{7} &= \hat{3} && \text{Alt. } \angle\text{'s } AC \parallel FD \\
 &= 60^\circ \\
 \hat{8} &= 40^\circ && \text{Vert.opp. } \angle\text{'s} \\
 \hat{8} + \hat{9} &= 180^\circ && \text{Straight line: AED} \\
 40^\circ + \hat{9} &= 180^\circ \\
 \hat{9} &= 140^\circ
 \end{aligned}$$