Naam van leerder:

Name of learner: .....

Hoërskool '	November 2015
Graad/*Grade* 8	Tyd/*Time*: $1\frac{1}{2}$ uur/*hours*
WISKUNDE [Tweede vraestel]	Punte/*Marks*: 75
MATHEMATICS [Second Paper]	
Eksaminator:	Moderator:

INSTRUKSIES EN INLIGTING/*INSTRUCTIONS AND INFORMATION*

1. Hierdie vraestel bestaan uit **DRIE** vrae. Alle vrae moet beantwoord word.
   This paper consists of THREE questions. Answer all the questions.
2. Nommer presies soos op die vraestel. Laat 'n spasie na alke nommer.
   Number the same as on the paper. Leave a space between each number.
4. Begin ELKE vraag op 'n NUWE bladsy en trek 'n lyn na elke vraag.
   Start EACH question on a NEW page and draw a line at the end of each question.
5. Jy mag 'n goedgekeurde sakrekenaar gebruik, tensy anders vermeld
   You may use an approved calculator, unless stated otherwise
6. Wys al jou bewerkings en dit is tot jou voordeel om netjies te werk
   Show all your calculations and it is in your own interest to work neatly.
7. Rond AL die finale antwoorde tot TWEE desimale plekke af, tensy anders aangedui.
   Round off ALL the final answers off to TWO decimal places, unless stated otherwise
8. Dui meeteenhede aan waar van toepassing
   Indicate units of measurement, where applicable
9. Dit is tot jou voordeel om netjies te werk. STERKTE!
   It is in your own interest to work neatly. GOOD LUCK!

VRAAG 1/ QUESTION 1

1.1 Die volgende punte uit 50 was behaal deur leerders in 'n Wiskunde-toets.
The follosing marks out of 50 were scored by learners in a Mathematics test.

41 33 26 14 45 23 24 27 13 33 12

1.1.1 Organiseer die data deur die 'n stingel-en-blaardiagram te gebruik
Organize the data using a stem-leaf-diagram. (3)

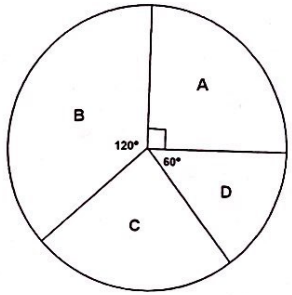
1.1.2 Skryf die omvang neer.
Write down the range. (2)

1.1.3 Wat is die modale punt?
What is the modal mark? (1)

1.1.4 Bereken die gemiddeld van die punte korrek tot TWEE desimale plekke.
Calculate the mean of the marks correct to TWO decimal places. (2)

1,1.5 Bepaal die mediaan van die punte.
Determine the median mark. (2)

1.2 Die sirkeldiagram stel die wins voor wat 'n boer uit vier verskillende gewasse gemaak het.
The pie graph represents the profit a farmer has made from four different crops.



A: Mielies/*Mealies*
B: Koring/*Corn*
C: Lusern/*Lucern*
D: Bone/*Beans*

1.2.1 Watter gewas was die winsgewindste?
Which crop was the most profitable? (1)

1.2.2 Bepaal watter persentasie was die wins uit A van die totale wins.
Calculate which percentage of the total profit was made from A. (2)

1.2.3 Bepaal die verhouding van die wins uit A en C tot die van B en D
Calculate the ratio of the profit made from A and C to that made from B and D. (2)

1.2.4 As die wins uit D R6 500 was bereken die gesamentlike wins uit B en C.
If the profit from D was R6 500 determine the profit from B and C altogether. (3)
[18]

VRAAG 2/ QUESTION 2

2.1 Voltooi:*Complete:*

2.1.1 Die komplement van 27° is .....
The complement of 27° is ..... (1)

2.1.2 Die tophoek van 'n gelykbenige driehoek met 'n basishoek van 68° is.....
The apex of an isosceles triangle with a base angle 68° is ..... (2)

2.1.3 In 'n reghoekige driehoek is die som van die twee skerphoeke .....
In a right angled triangle the sum of the two acute angles is ..... (1)

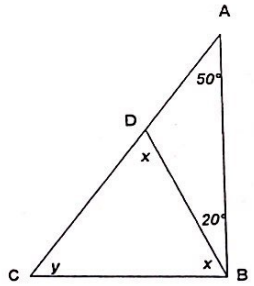
2.1.4 'n Hoek van 243° word 'n .....genoem.
An angle of 243° is called a ..... (1)

2.1.5 Elke buitehoek van 'n gelyksydige driehoek is.....
Every exterior angle of an equilateral triangle is ..... (1)

2.1.6 Die supplement van $30 - x$ is .....
The supplement of $30 - x$ *is* ..... (1)

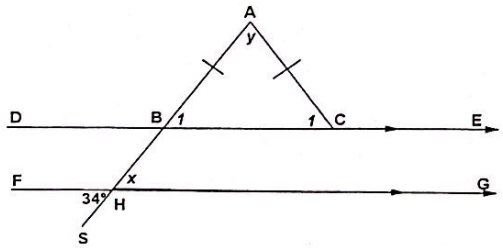
2.2 Vind die waardes van x en y in elk van die volgende figure met REDES.
Find the values of x and y in each of the following figures with REASONS

2.2.1 In Δ ABC is ∠A = 50°
en ∠ABD = 20°
In Δ ABC is ∠A = 50°
and ∠ABD = 20°



(4)

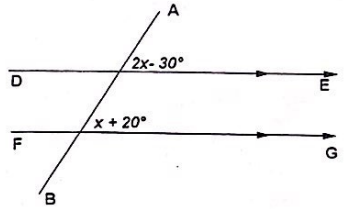
2.2.2 In onderstaande figuur is DE//FG,
AB = AC en ∠FHS = 34°
In figure below is DE//FG, AB=AC
and ∠FHS = 34°



(6)

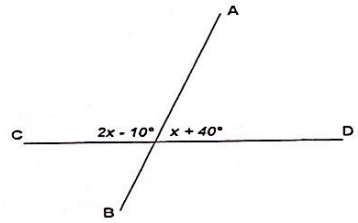
2.3. Bereken die waarde van x met REDES
Determine value of x with REASONS

2.3.1 Gegee: DE//FG
Given: DE//FG



(4)

2.3.2 Gegee: CD is reguitlyn
Given: CD is a straight line

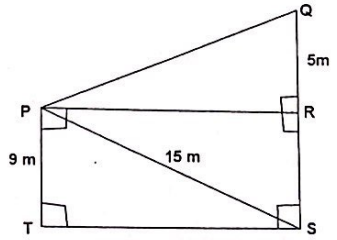


(3)

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VRAAG 3/ QUESTION 3

3.1 Gebruik onderstaande figuur waar QR = 5m, PT = 9m en PS = 15m om die volgende te bepaal:
Use the figure below where QR = 5m, PT = 9m and PS = 15m to calculate the following:

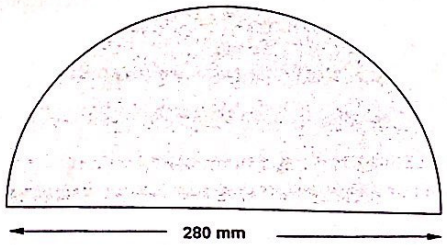


3.1.1 die lengte van TS
the length of TS (3)

3.1.2 die lengte van PQ
the length of TS (3)

3.1.3 die oppervlakte van figuur PQST
the area of figure PQST (7)

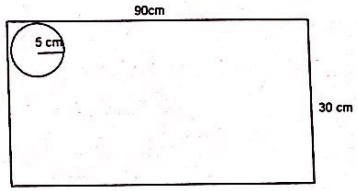
3.2 Gegee:
Given:



3.2.1 Bereken die lengte draad wat benodig word om 'n raamwerk van 'n halwe sirkel met middellyn 280 mm te maak. ($\pi = \frac{22}{7}$)
Determine the length of wire required to make a frame for a semi-circle with a diameter of 280 mm. ($\pi = \frac{22}{7}$) (5)

3.2.2 Bereken ook die oppervlakte van die gedeelte binne die draad. (π =3,14)
Determine the area of the semi-circle. (π =3,14) (3)

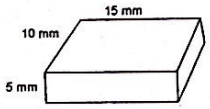
3.3 Gegee:
Given:



3.3.1. Bereken hoeveel sirkels met radius 5cm jy kan uitknip uit 'n reghoek met lengte 90 cm en breedte 30 cm.
Determine how many circles with radius 5cm can be cut out of a rectangle with length 90 cm and breadth 30 cm (2)

3.3.2 Bereken die area van die reghoek wat oorbly nadat al die sirkels uitgeknip is.
Determine the remaining area of the rectangle after the circles has been cut out. (6)

3.4 Bereken die volume van die reghoekige prisma met lengte 15mm, breedte 10 mm en hoogte 5 mm. Gee die kapasiteit in ml
Determine the volume of a rectangular prism with length 15mm, width 54 mm and height 5 mm. Give the capacity be in ml



(4)
[33]

TOTAAL/*TOTAL:* 75

MEMORANDUM

HOËRSKOOL
GRAAD 8
WISKUNDE II
EKSAMINATOR:

NOVEMBER 2015
TYD: 1½ UUR
PUNTE: 75
MODERATOR:

VRAAG 1

1.1.1)

	STINSEL	BLAAR	BLAAR
1	4 3 2	2 3 4	
2	6 3 4 7	3 4 6 7	
3	3 3	3 3	
4	1 5	1 5	

✓ STINSEL ✓ BLAAR ✓ ORDEN (3)

1.1.2) $45 - 12 = 33$ (2) ✓ maks − min ✓ ANTW CA

1.1.3) 33 (1) ✓ antw

1.1.4) $291 \div 11 = 26,45$ (2) ✓ totaal ÷ 11 ✓ ANTW CA

1.1.5) 26 (2) ✓✓ antw

1.2.1) KORINS (1) ✓ antw

1.2.2) $\frac{90}{360} \times \frac{100}{1} = 25\%$ (2) ✓ ¼ of 25 ✓ x100 of %

1.2.3) A en C : B en D
$180 : 180$
$1 : 1$
✓ enige gelykes (2) ✓ 1 : 1

1.2.4) $60° = 6500$
B en C = 210°
$\therefore \frac{6500}{60°} \times \frac{210°}{1} = R\,22\,750$
✓ 210° ✓ 6500 ÷ 60° (3) ✓ antw

[18]

VRAAG 2

2.1.1) 63° (1) ✓ antw

2.1.2) $180° - 2(68) = 44°$ (2) ✓ 2 x 68° ✓ antw

2.1.3) 90° (1) ✓ antw

2.1.4) refleksie/inspringende (1) ✓ antw.

2.1.5) 120° (1) ✓ antw

2.1.6) $180° - (30° - x)$
$150° + x$ (1) ✓ antw.

2.2.1) $x = 70°$ [Buite $\angle$ v Δ] ✓ 70° ✓ rede
of $\angle ADB = 110°$ [$\angle$ su 3 $\angle$e v Δ)
$x = 70°$ [gestrekte $\angle$]
$y = 180 - 140°$ [$\angle$ su 3 $\angle$e v Δ] ✓ 40° ✓ rede
$= 40°$ (4)

2.2.2) $x = 34°$ [regoorst $\angle$e] ✓ 34 ✓ rede
$\angle B_1 = 34°$ [ooreenkomst $\angle$e; DE // FG] ✓ $\angle B_1 = 34°$ ✓ rede met //
$y = 180 - 2(34)$ [$\angle$ su 3 $\angle$e v Δ; AB = AC] ✓ 112° ✓ rede met = syde
$= 112°$ (6)

2.3.1) $2x - 30 = x + 20°$ [ooreenkomst $\angle$e; DE // FG] ✓ vergelyking
$2x - x = 20 + 30$ ✓ rede (ooreenk $\angle$e)
✓ DE // FG.
$x = 50$ (4) ✓ antw.

2.3.2) $2x - 10 + x + 40° = 180°$ [gestrekte $\angle$] ✓ vergelyking
$3x = 180 + 10 - 40$ ✓ rede
$3x = 150$
$x = 50°$ ✓ antw.
(3)

[24]

VRAAG 3

3.1.1) $TS^2 = 15^2 - 9^2$ [Pyth; $\angle T = 90°$] ✓ $15^2 - 9^2$

$= 225 - 81$

$= 144$ ✓ 144

$TS = 12\text{ m}$ (3) ✓ 12

3.1.2) $PQ^2 = 12^2 + 5^2$ [Pyth; $\angle QRP = 90°$] ✓ $12^2 + 5^2$

$= 144 + 25$

$= 169$ ✓ 169

$PQ = 13\text{ m}$ (3) ✓ 13

3.1.3) $l \times b + \frac{1}{2} b \times h$ ✓ $l \times b$ ✓ $\frac{1}{2} b \times h$

$12 \times 9 + \frac{1}{2} \times 12 \times 5$ ✓ subst ✓ subst CA

$108 + 30$ ✓ som van □ + Δ

$138\ m^2$ (7) ✓ antw CA ✓ eenheid.

3.2.1) Omtrek $= \frac{1}{2} \times 2\pi r + d$ ✓ Omtrek $= 2\pi r$

$= \frac{1}{2} \times 2 \times \frac{22}{7} \times 140 + 280$ ✓ radius = 140

✓ subst

$= 440 + 280$ ✓ 440

$= 720\text{ mm}$ (5) ✓ 720

3.2.2. Area $= \frac{1}{2} \pi r^2$ ✓ Area $= \pi r^2$

$= \frac{1}{2} \times 3{,}14 \times 140^2$ ✓ subst

$= 30772\text{ mm}^2$ (3) ✓ antw

3.3.1) $9 \times 3 = 27$ (2) ✓✓ 27

3.3.2) $l \times b - 27(\pi r^2)$ ✓ $l \times b$ ✓ $27 \times \pi r^2$ CA.

$90 \times 30 - 27 \times \pi \times 5^2$ ✓ subst ✓ subst

$2700 - 2120{,}58$ ✓ afrek vir □ − 27O

$579{,}42\text{ cm}^2$ 29,64 ✓✓✓✓✓ ✓ 579,42 met afronding

3.4) $V = l \times b \times h$ ✓ formule

$= 15 \times 10 \times 5$ ✓ subst.

$= 750\ mm^3$ ✓ 750

$= 750\text{ ml}$ (4) ✓ eenheid.

[33]