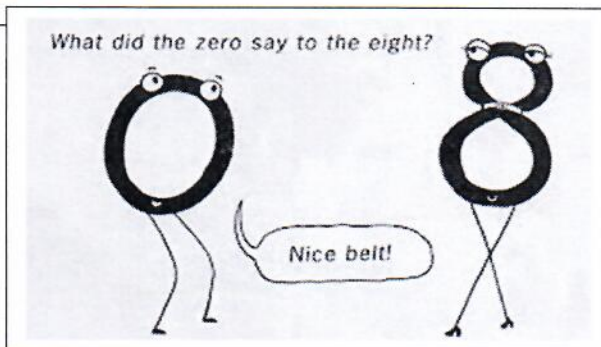


Instructions:

1. Calculators may be used.
2. All work must be completed in pencil.
3. Marks have been allocated for working out.
4. Rule off after each section.
5. Check your work before handing in.



QUESTION 1: FUNCTIONS AND RELATIONSHIPS		10											
a b c	Use the rule $y = 3x + 11$ to calculate the values of a,b and c	3											
	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">x</td> <td style="padding: 2px 10px;">5</td> <td style="padding: 2px 10px;">6</td> <td style="padding: 2px 10px;">c</td> </tr> <tr> <td style="padding: 2px 10px;">y</td> <td style="padding: 2px 10px;">a</td> <td style="padding: 2px 10px;">b</td> <td style="padding: 2px 10px;">50</td> </tr> </table>		x	5	6	c	y	a	b	50			
x	5	6	c										
y	a	b	50										
d e f	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">5 ←</div> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 0 10px;">$y = 5x - 2$</div> <div style="margin-left: 10px;">→ d</div> </div> <div style="display: flex; align-items: center; justify-content: center; margin-top: 10px;"> <div style="margin-right: 10px;">12 ←</div> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 0 10px;">$y = 5x - 2$</div> <div style="margin-left: 10px;">→ e</div> </div> <div style="display: flex; align-items: center; justify-content: center; margin-top: 10px;"> <div style="margin-right: 10px;">f ←</div> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 0 10px;">$y = 5x - 2$</div> <div style="margin-left: 10px;">→ 123</div> </div>	3											
g	Write down the relationship between x and y . (Rule)	2											
	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">x</td> <td style="padding: 2px 10px;">1</td> <td style="padding: 2px 10px;">2</td> <td style="padding: 2px 10px;">3</td> <td style="padding: 2px 10px;">4</td> <td style="padding: 2px 10px;">5</td> </tr> <tr> <td style="padding: 2px 10px;">y</td> <td style="padding: 2px 10px;">95</td> <td style="padding: 2px 10px;">195</td> <td style="padding: 2px 10px;">295</td> <td style="padding: 2px 10px;">395</td> <td style="padding: 2px 10px;">495</td> </tr> </table>		x	1	2	3	4	5	y	95	195	295	395
x	1	2	3	4	5								
y	95	195	295	395	495								
h i	Calculate the values for the letters h and i in the table.	2											
	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">x</td> <td style="padding: 2px 10px;">1</td> <td style="padding: 2px 10px;">2</td> <td style="padding: 2px 10px;">3</td> <td style="padding: 2px 10px;">4</td> <td style="padding: 2px 10px;">5</td> </tr> <tr> <td style="padding: 2px 10px;">y</td> <td style="padding: 2px 10px;">h</td> <td style="padding: 2px 10px;">i</td> <td style="padding: 2px 10px;">10</td> <td style="padding: 2px 10px;">17</td> <td style="padding: 2px 10px;">26</td> </tr> </table>		x	1	2	3	4	5	y	h	i	10	17
x	1	2	3	4	5								
y	h	i	10	17	26								

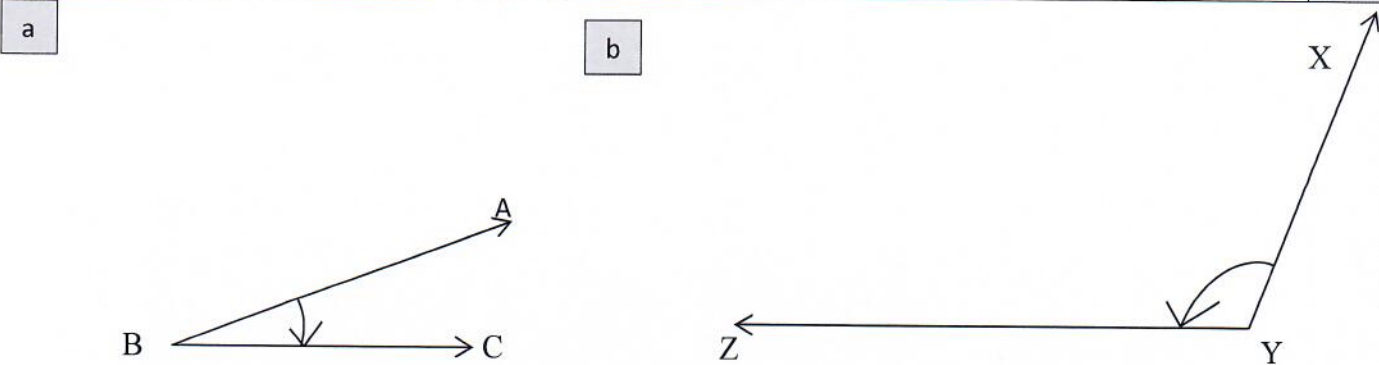
QUESTION 2: Name the following shapes					5
a)	b)	c)	d)	e)	

QUESTION 3: SPACE AND SHAPE : Constructions		20
a	Construct $\hat{A}BC = 95^\circ$	3
b	Construct $\hat{X}YZ = 245^\circ$ State what type of angle this is.	3 1
c	Construct $\triangle ABC$ with $\hat{A}BC = 90^\circ$ and $\overline{AB} = 6\text{cm}$ and $\overline{BC} = 4\text{cm}$ Label your triangle correctly and <u>state what type of triangle it is according to its sides and angles.</u>	5
d	Draw concentric circles with P as a midpoint and with radius $\overline{PS} = 4\text{cm}$ and diameter $\overline{QR} = 60\text{mm}$.	3
e	Draw a rectangle with $\overline{KL} = \overline{NM} = 4,5\text{cm}$ and $\overline{KN} = \overline{LM} = 30\text{mm}$. Show the <u>properties</u> of the rectangle on the sketch.	5

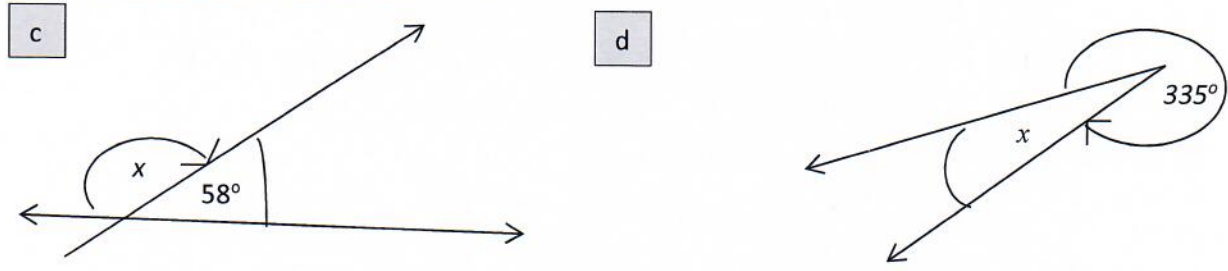
QUESTION 4: REFER TO SKETCH 1 TO ANSWER THE FOLLOWING QUESTIONS:		15	
a	Is AB a Radius; diameter or chord?	Sketch 1 	
b	How many degrees is $\hat{E}HG$ equal to?		
c	What kind of angle is "x"?		
d	Measure the length of the radius. Write your answer in mm.		
e	True or False: $CA \perp CB$		
f	How many triangles do you count within the sketch?		
g	What kind of triangle is AOB according to its sides?		
h	If $\hat{A}DB = 44^\circ$, calculate the size of $\hat{A}DE$.		
i	Name a ray.	j	True or false: $OA + OB = \text{diameter of circle } O$.
k	True or false: $FG \parallel ED$	l	Name the shape formed by AOBD.
m	How many degrees are there in $\hat{A}EB$?	n	Name the arrow-head in the sketch.

QUESTION 5: Measure the following angles:

6



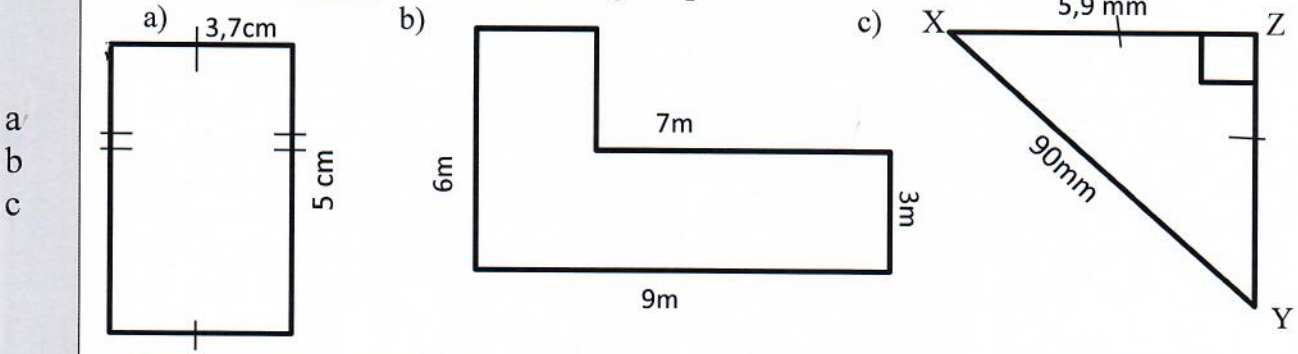
Calculate the sizes of the angles marked "x":



QUESTION 6: AREA AND PERIMETER

20

Calculate the areas of the following shapes:

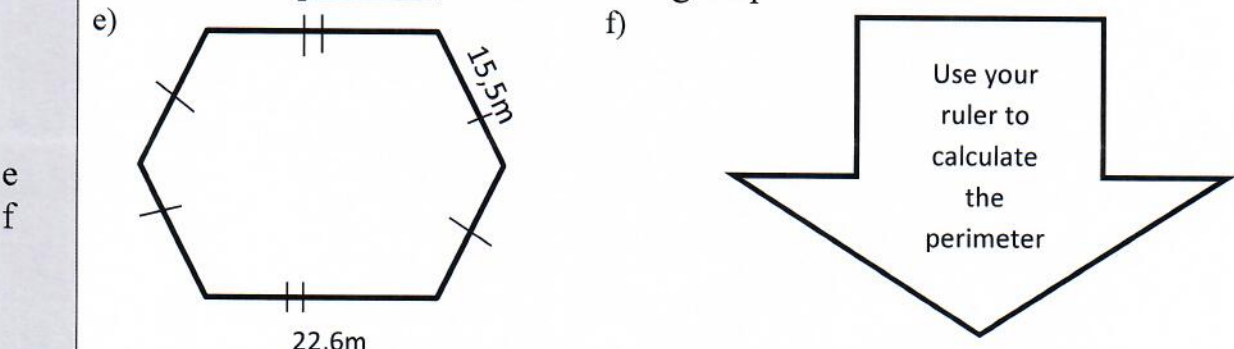


(11)

d) The area of a square is 49cm^2 . What is the length of one side of the square?

(3)

Calculate the perimeter of the following shapes:



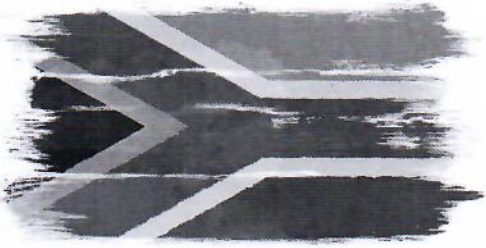
(6)

QUESTION 7: MEASUREMENT				5	
a	4 500g = _____ kg	1	b	9 764 mm = _____ cm	1
c	0,07 m = _____ mm	1	d	7 ml = _____ litres	1
e	1,5m ² = _____ cm ²	1			

QUESTION 8:



Mrs O'Connor needs to have the school's South African flag repaired. She buys the following pieces of material at Mark's Material Shop. If he gives her a 15% discount, what will her change be if she pays with a R200 note?

7

Colour	Price per metre	Number of metres	
Black	R25,00	1,5m	
Yellow	R20,00	3,6m	
Red	R15,50	2,8m	
Green	R10,00	30cm	

QUESTION 9:

12

a	Mr Ellit plans a trip of 1 950km. He completes $\frac{2}{5}$ of the journey by bus, $\frac{1}{6}$ by car, 10% by train and he cycled 34km. How far did he travel by air?		3
b	Share R48 000 in the ratio 4:5:7		3
c	A painter has 35 litres of paint left in the tin after a day's work. If he used $\frac{2}{7}$ of the paint during the day, how many litres did he start the day with?		3
d	Sandy is 62 years old. She measures her heart rate and finds that it beats 24 times in 15 seconds. Is Sandy within the target range for her age?		3

Average heart rates by age		
Age in years	Average maximum heart rate in beats per minute	Target heart rate range in beats per minute
40	180	90 to 153
45	175	88 to 149
50	170	85 to 145
55	165	83 to 140
60	160	80 to 136
65	155	78 to 132
70	150	75 to 128

Source: American Heart Association.