LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

VHEMBE EAST DISTRICT

SENIOR PHASE

GRAGRDE 8

MATHEMATICS
FINAL EXAMINATION
18 NOVEMBER 2019

MARKS: 100
TIME: 2 HOURS

This question paper consists of 8 pages including the cover page

Instructions

1. Read questions carefully before answering
2. Diagrams are not drawn to scale
3. Answer all questions and show all your calculations
4. Approved scientific calculators (non- programmable and no-graphical) may be used except in the specified questions.
5. Answer question 3.1 on the grid paper provided on the last page of your question paper. Remove the grid paper from your question paper and submit it together with the answer book.

QUESTION 1 [29 MARKS]

1.1 Write down the letter of the correct answer

1.1.1 13 – 7 + 6 = (1)

A. 0 B. 12 C. -7 D 6

1.1.2 The number which is not a multiple of 7 is (1)

A. 91 B. 84 C. 63 D. 57

1.1.3 The highest common factor of 42 and 66 is (1)

A. 2 B. 3 C. 4 D. 6

1.1.4 -3^2 = (1)

A. - 6 B. 6 C. – 9 D. 9

1.1.5 The sum of prime numbers between 80 and 90 is (1)

A. 172 B. 164 C. 176 D. 170

Calculate

1.2.1 $(-1\times8) + (7- 5)$ (2)

1.2.2 $\sqrt[3]{8} + (-1)^8$ (2)

1.3 A pair of jeans marked at R450,00 is sold at a discount of 25%. Determine the selling price. (3)

1.4 Simplify

1.4.1 $\frac{9}{12} \div \frac{5}{7}$ (2)

1.4.2 $\frac{a^2b^3.4ab^3}{a^2b^2}$ (3)

1.5 Write $3{,}56 \times 10^6$ as normal numbers . (2)

1.6 The temperature recorded at Bloemfontein increased from -2℃ to 13℃ . What is the difference in temperature? (3)

1.7 Happy uses 2 packets of jelly to make a pudding for 6 people. How many packets of jelly does she need to make a pudding for 18 people? (3)

1.8 A dog has eight puppies. The total mass of all the puppies is 2520g. The largest puppy has a mass of 250g and the smallest puppy has a mass of 250g. The rest of the puppies all have the same mass. What is the mass of each of the other six puppies? (4)

QUESTION 2 [16 MARKS]

2.1 Study this expression $2x^2 + \frac{x-3}{2} - 5x^3$ and answer the following questions:

2.1.1 Determine the coefficient of x^3 (1)

2.1.2 What is the constant in the expression? (1)

2.1.3 Determine the value of the expression if $x = 1$ (3)

2.2 Solve the following equations

2.2.1 $-p = -7$ (1)

2.2.2 $\frac{3}{5}\ x = 15$ (2)

2.2.3 $3^{x-1} = 27$ (3)

2.3 Khazamula is x years old. Phodzo is 2 years older than Khazamula. The sum of their ages is 16.

2.3.1 Write this information in an equation using x as the variables (2)

2.3.2 Solve the equation to determine Phodzo's age (3)

QUESTION 3 MARKS: 10

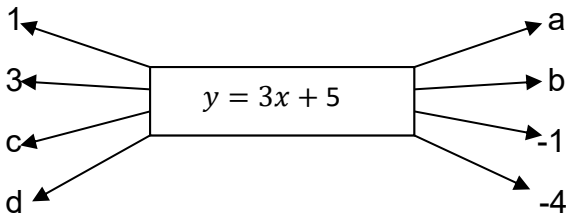
3.1 Plot the ordered pairs given below and join them to form a graph, use the graph paper provided on the last page.

A(0;3); B(1;2); C(3;0) and D(-1:4) (3)

3.2.1 Determine the rule to describe the relationship between the following numbers in the sequence: -1; -3; -5; -7;...;... (2)

3.2.2 Describe the rule in 3.2.1 in words (1)

3.3 Determine the values of a, b, c, and d. (4)



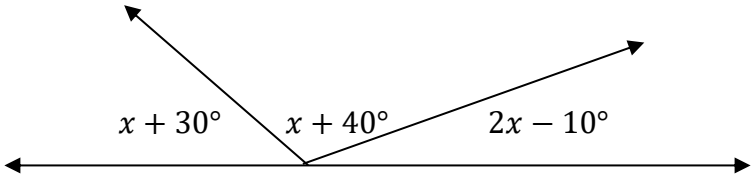
QUESTION 4 **MARKS: 16**

4.1

4.1.1 Use a ruler and compass to construct ΔDEF with $\widehat{\mathrm{D}} = 60°, \mathrm{DE} = 5\ \mathrm{cm}$ and $\mathrm{DF} = 5\ \mathrm{cm}$. (3)

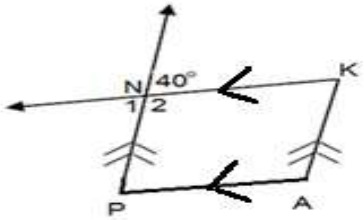
4.1.2 Measure length FE and then name with a **reason** the **type of triangle** constructed. (2)

4.2 Study the diagram below and determine the value of x



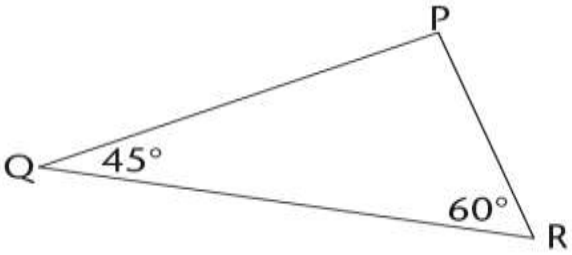
(3)

4.3 In the figure $\mathrm{PN} // \mathrm{AK}$ and $KN // AP$.

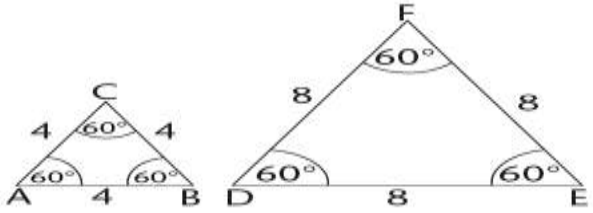


Determine with reasons three other angles each equal to 40°. (3)

4.4 Find $\hat{P}$ in the figure drawn below. (3)



4.5 Decide with reasons whether the following figures are congruent or similar. (2)



QUESTION 5 MARKS: 9

5.1 Draw $\Delta KLM,\ K(3;1), L(0;4), M(-3;4)$. Reflect the triangle in the x-axis and label it ($\Delta K'L'M'$). (4)

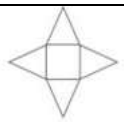
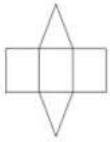
Note: Answer this question on the provided worksheet.

5.2 Study the 3D solids below and complete the table below:

Solid	Name	Number of faces	Shape of the faces
	**5.2.1**	5	2 triangles and 3 rectangles
	**5.2.2**	4	**5.2.3**

(3)

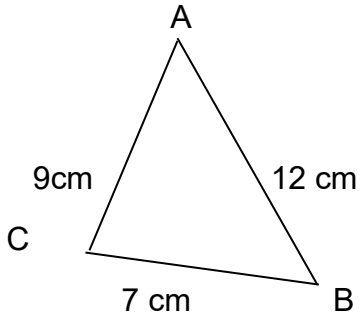
5.3 Match the 3D solid with the correct net by writing the corresponding letter (2)

Nets	A	B	C
			
3d solids			
5.3.1		**5.3.2**	

QUESTION 6 MARKS: 10

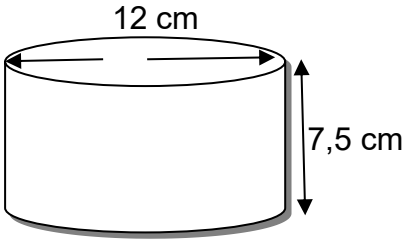
6.1 Determine whether the following triangle is a right- angled or not:

AB=12 cm, AC= 9 cm and BC= 7 cm (4)



6.2 The perimeter of a square field is 200m. Calculate its area. (3)

6.3 Calculate the volume of a cylinder if $= 3{,}142$, diameter= 12cm and height=7,5 cm (3)



QUESTION 7 **MARKS: 10**

7.1 The data below shows the number of bricks delivered on different days.

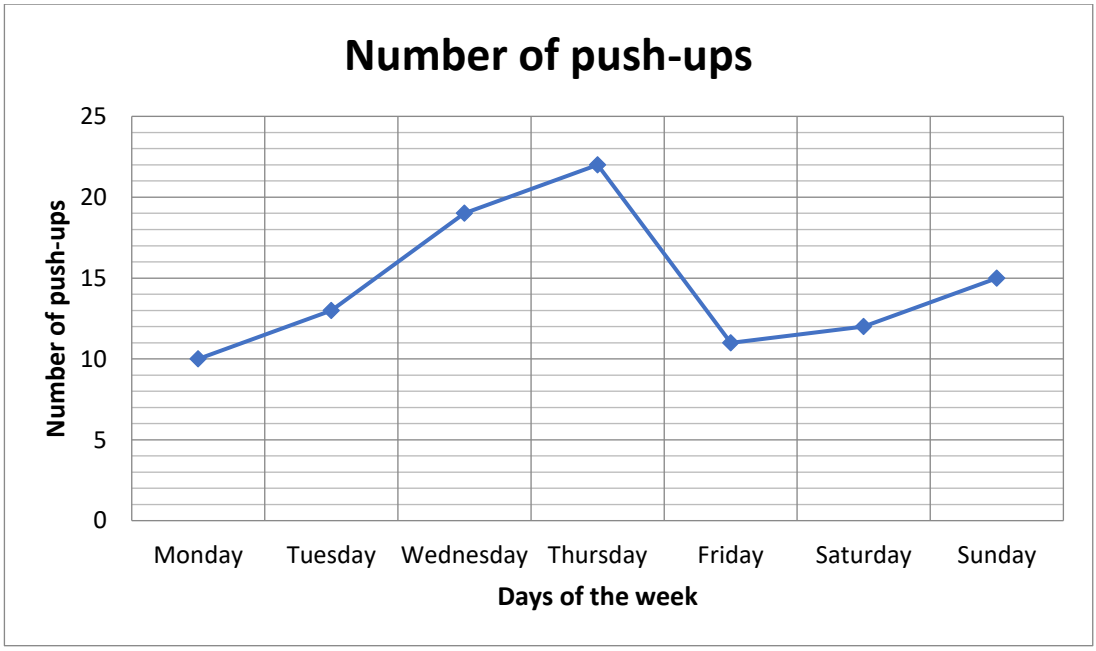
564 534 544 568 588 590 510 523 533 537 555

7.1.1 Organise the following set of data using stem- and leaf display. (2)

7.1.2 Determine the median. (1)

7.1.3 Determine the range (1)

7.2 The graph below shows the number of push-ups that Suzan did within a week.



7.2.1 Which day has the highest number of push-ups? (1)

7.2.2 What is the total number of push-ups Suzan did for the week? (2)

7.3 A six-sided die was rolled 20 times as shown in the summary below.

Outcome	1	2	3	4	5	6
Frequency	3	5	4	2	2	4

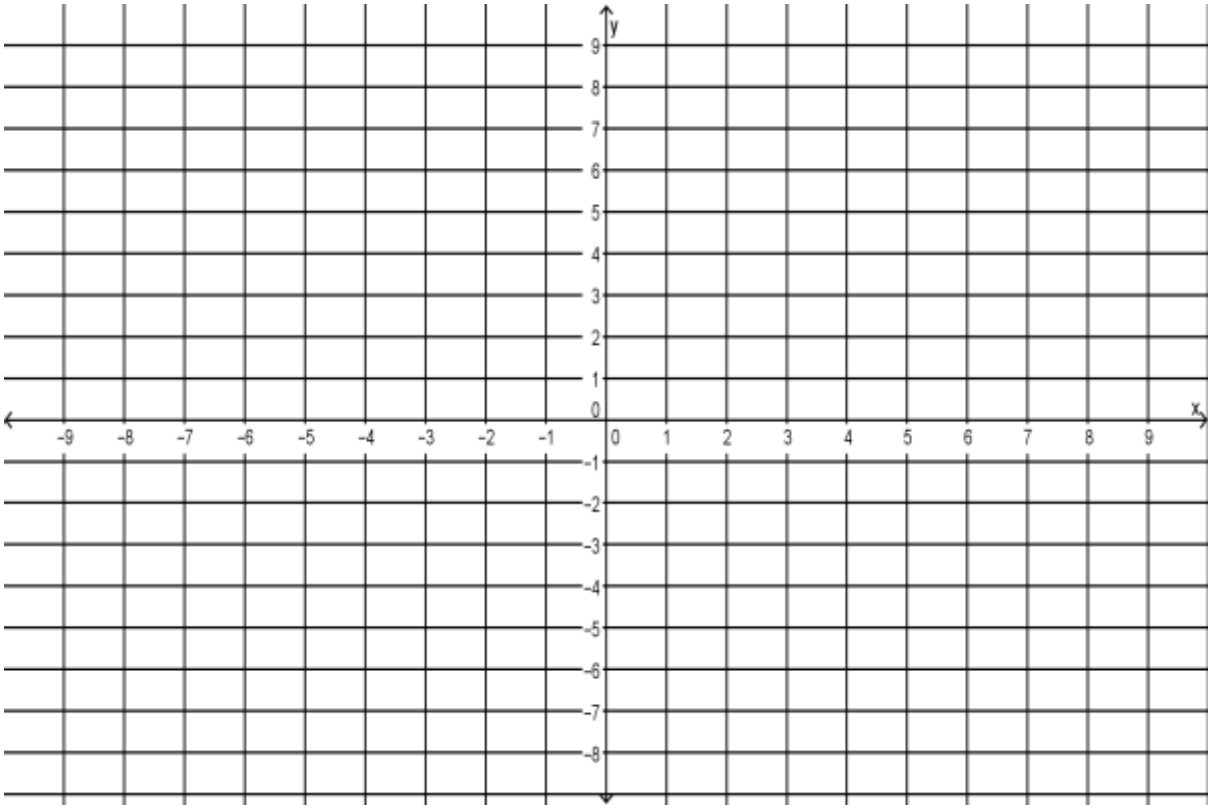
7.3.1 How many times the outcome showed a 3? (1)

7.3.2 What is the relative frequency of a 2 in a 20 die rolls? (2)

TOTAL MARKS: 100

Name: ……..

QUESTION 3.1



5.1