UNIVERSITY OF JOHANNESBURG

FACULTY	**:**	**Education**			
DEPARTMENT	**:**	**Mathematics for the Foundation Phase**			
CAMPUS	**:**	**SWC**			
MODULE	**:**	**MFP20B3**			
SEMESTER	**:**	**Second**			
EXAM	**:**	**November Examination 2019**			
DATE	**:**	**18 November 2019**	**SESSION**	**:**	**08:30 - 10:30**
ASSESSOR(S)	**:**	**DR J MASEKO**			
MODERATOR	**:**	**MS N SWANEPOEL (UP)**			
DURATION	**:**	**2 HOURS**	**MARKS**	**:**	**120**

NUMBER OF PAGES: 4 PAGES

INSTRUCTIONS:

1. Answer ALL THE QUESTIONS.
2. Number your answers clearly
3. Questions can be answered in any sequence but ensure that you clearly number your answers.
4. NO CALCULATORS ALLOWED
5. All the figures are NOT drawn to scale

QUESTION 1 **/24**

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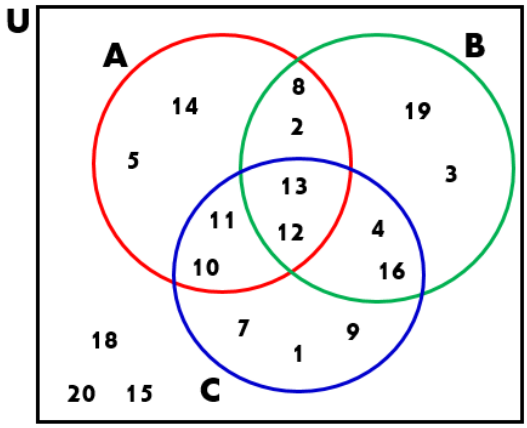
Find the set representation of:



1.1 U (3)

1.2 A (3)

1.3 B (3)

1.4 C (3)

1.5 Find the set representation of:

1.5.1 AU(B∩C) = /4

1.5.2 BU(A∩C) /4

1.5.3 (BUC)∩A /4

QUESTION 2 **/33]**

2.1 Complete each sequence by adding 2 more terms:

2.1.1 11, 16, 20, (2)

2.1.2 -8, 8, 24, (2)

2.2 Calculate the first three terms using the rule $T_n = 5^n + 1$ (3)

2.3 The first three terms of the sequence are: 32, 16, 0, ...

2.3.1 Determine the rule for the *nth* term of the sequence (4)

2.3.2 Then, using the rule, calculate T_{20} (3)

2.4 Calculate:

2.4.1 40 ÷ (4 – (10-8)) (3)

2.4.2 $1\frac{3}{4} \times 4\frac{3}{9} \div \frac{7}{36} of \frac{1}{3}$ (8)

2.4.3 $\frac{2\frac{2}{3}+\frac{2}{6}}{4\frac{2}{3}\div 42} + 1\frac{2}{3}$ (8)

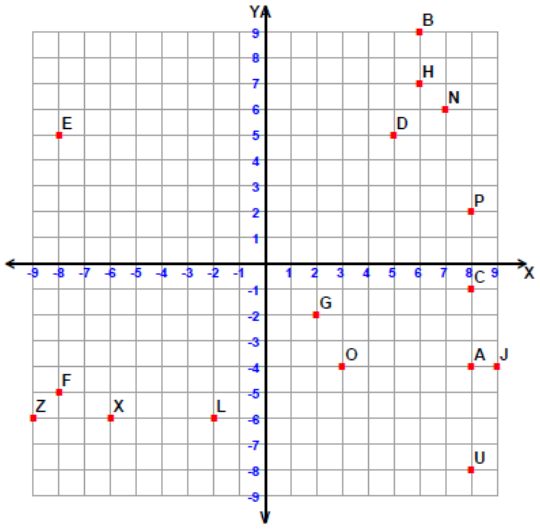
QUESTION 3 **/18]**

3.1 Locate the following ordered pairs on the coordinate plane, and write the coordinates.

H **Z** **L**

E **G**

(10)



3.2 Join points **P**, **U** with two others points to form a **square** involving two other quadrants. Write all four (4) coordinates. (6)

3.3 What is the size of ∠DEF? (2)

QUESTION 4 **/25]**

Figure A This figure shows a ground plan of the ground floor of a tall building.

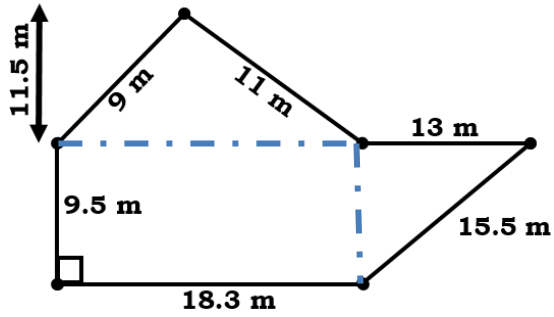
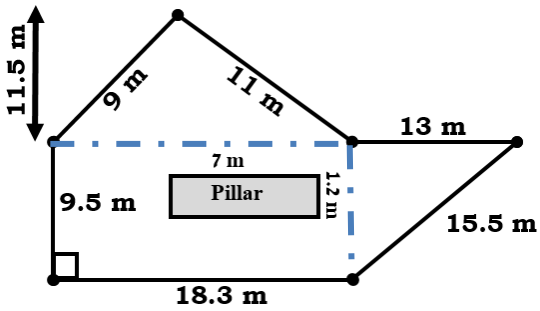


Figure B: This figure shows a ground plan of the ground floor of a tall building. A base of the pillar is rectangular in shape



4.1 Calculate the **area** of figure **A** to tile the floor. (8)

4.2 Calculate the **perimeter** of figure **A** (5)

4.3 Calculate the **area** covered by the **base of the pillar** in figure **B** (4)

4.4 The base of the pillar takes space as you prepare to tile the floor. Calculate how much area is **left** to tile (4)

4.5 If figure **A** is 65 m tall, calculate the figure's **volume** (4)

QUESTION 5 **/20]**

2007, 2008, and 2015 inland petrol (95 Octane) prices (in RSA cents) on the given months are shown in the table below. All the calculations must be done about all the given periods combined (**NOT** per year).

2007						
Jan	Feb	Mar	Apr	May	Jun	Jul
598	**575**	**599**	**667**	**701**	**724**	**716**
2008						
Jan	Feb	Mar	Apr	May	Jun	Jul
747	**764**	**825**	**891**	**946**	**996**	**1070**
2015						
Jan	Feb	Mar	Apr	May	Jun	Jul
1102	**1009**	**1105**	**1261**	**1261**	**1308**	**1352**

5.1 Represent **all** the petrol prices information in an ascending order. (3)

5.2 Determine the mean and mode of the petrol prices of the given months. (3)

5.3 Draw a line graph. Label axes and show graph title. (6)

5.4 By how much is the lowest price away from the average? (2)

5.5 Determine the number of times when the petrol price is between 650 and 1200 cents. (1)

5.6 If the price of petrol in July 2020 was 25% more than the July 2015 price. Determine the amount the owner will spend on filling the 50 litres car petrol tank in July 2020. (5)

END OF EXAMINATION **----oOo----** **TOTAL: 120**