

Vauxhall High School
Mathematics
Grade 11
City & Guilds
March 30 – April 3, 2020

Instructions:

- **Answer all questions**
- **Show all working for each question in the space provided**

1. Find the exact value of $6\frac{1}{4} \times 1\frac{2}{10} + 2\frac{3}{5}$ giving your answer as a fraction in its LOWEST terms.

3 marks

2. Without the use of a calculator, determine the EXACT value of;

I. $(5.6)^2 - \frac{3.2}{8}$

3 marks

II. Evaluate $6 \div 3 - 20 \times 2^3 - (50 + 5)$

3 marks

III. Convert $7\frac{2}{5}$ into a decimal

2 marks

3. a. Translate the following algebraic expressions to verbal phrases;

I. $\frac{JK}{2} - 3x$ **1 mark**

II. $(x + y)^2$ **1 mark**

III. $\frac{xy}{4}$ **1 mark**

b. Factorize the following;

I. $-qx + qy$ **1 mark**

II. $-121x - 55$ **1 mark**

4. Given that $x = 2$, $y = -3$ and $z = 4$. Evaluate the following;

I. $2x^3y + 3x^2z$ **3 marks**

II. $\frac{4xz}{3y} - 2y$ **3 marks**

III. $\frac{2y^2z - 4x}{2xyz}$ **3 marks**

IV. $\frac{2y-y}{x-y}$ **3 marks**

b. Simplify the following algebraic expressions;

I. $-19m^2 - 5n^3 - 12m^2 + 8n^3$ **2 marks**

II. $12xy - 3y + 9xy - 3$ **2 marks**

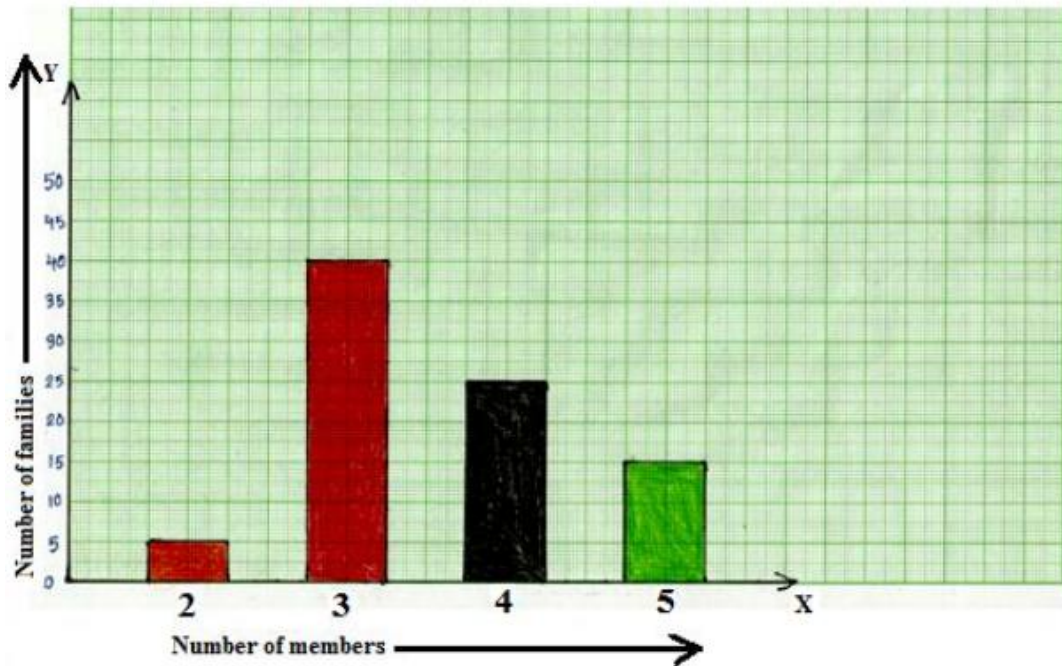
5. Solve the equation

I. $\frac{3x+1}{5} = \frac{2(x-1)}{3} - 9$ **4 marks**

II. $\frac{4x}{5} - \frac{3}{7} = \frac{4x}{7} - \frac{5}{7}$ **4 marks**

III. $\frac{2x}{3} - \frac{1}{6} = \frac{5x}{6} - \frac{2}{3}$ **4 marks**

6. In a survey of 85 families of a colony, the number of members in each family was recorded, and the data has been represented by the following bar graph.



Read it carefully and answer the following questions.

- I. What information does the bar graph give?
1 mark
- II. How many families have 3 members?
1 mark
- III. How many people live alone?
1 mark
- IV. Which type of family is the most common? How many members are there in each family of this kind?
1 mark

b. The following pictograph shows how many cars were washed at the washing centre of a service station during four days of a week.

One  represents 5 cars



Use the pictograph above to answer each question

- I. How many cars were washed on different days? **4 marks**

- II. On which day were the maximum numbers of cars washed? **1 mark**







- III. On which day were the minimum numbers of cars washed? **1 mark**

- IV. How many more cars were washed on Tuesday than Wednesday? **1 mark**

- V. How many total cars were washed in four days? **1 mark**

C. There is a pictograph showing rainfall of different cities named (A, B, C, D, E and F) during the current year. On the basis of this pictograph answer the following questions.

Pictograph showing rainfall in cm.

City A	
City B	
City C	
City D	
City E	
City F	



This symbol represents 25 cm. of rainfall.

1. Give the information regarding rainfall in cities A, B, C, D, E and F in cm. **6 marks**
2. In which city was there maximum rainfall? **1 mark**
3. In which city was there minimum rainfall? **1 mark**
4. The city A recorded how much more rainfall than the city F? **1 mark**
5. Compare the rainfall between the city B and E. **1 mark**