# KULLEĠĠ SAN BENEDITTU
# Secondary School, Kirkop

## HALF YEARLY EXAMINATION – 2015/2016

**Level 6 – 7**

**YEAR 7**          **MATHEMATICS Level 6 - 7**          **TIME:  30 mins**

### Non Calculator Paper

| Question | 1 | 2 | 3 | 4 | 5 | 6 | Total |
|---|---|---|---|---|---|---|---|
| Max. Mark | 2 | 6 | 4 | 6 | 5 | 2 | 25 |
| Mark | | | | | | | |

**DO NOT WRITE ABOVE THIS LINE**

*Name:* _____   *Class:* _____

### Instructions to Candidates

- Answer all the questions.
- This paper carries a total of 25 marks.
- Calculators and protractors are not allowed.

1. Write the **next term** of each of the following sequences:

   a) 3, 7, 11, 15, 19, _____.

   b) 81, 72, 63, 54, 45, _____.

   (2 marks)

2. a) In St. Mark's Secondary School there are 436 students. Next year the number of students will **increase** by 78. How many students will there be in all?

   Ans: _____

   b) The school hall has 26 rows with 19 seats in each row. Calculate the **total** number of seats by completing the table below.

   | × | 10 | 9 | |
   |---|----|---|---|
   | 20 | | | |
   | 6 | | | |
   | | | Total | |

   c) How many **more seats** will need to be added to seat 500 people?

   Ans: _____

   (6 marks)

3.  a)  Guess the number.

    - I am a prime number between 1 and 20.
    - I am a factor of 35.
    - I am the square root of 49.

Ans: _____

b)  Write a number that is **both** a multiple of 4 and a square number.

Ans: _____

(4 marks)

4.  a)  Write $\dfrac{4}{5}$ as a **decimal**.

Ans: _____

b)  Write 0·42 as a **percentage**.

Ans: _____

c)  Write 24% as a fraction in its **simplest terms**.

Ans: _____

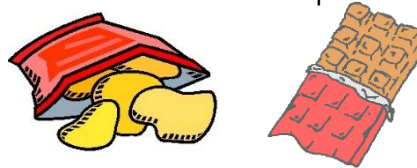d)  $\dfrac{7}{9}$ of the children in a school are right-handed.

What **fraction** of the children in the school are left-handed?

Ans: _____

(6 marks)

5. Anton buys 5 chocolate bars at €1·45 each and 7 packets of crisps at 70c each.  Calculate:

   a)  The **total cost** of the chocolate bars.

   Ans:  € _____

   b)  The **total cost** of the crisps.

   Ans:  € _____

   c)  The **change** he gets from €15.

   Ans:  € _____

   (5 marks)

6. A **15-day** holiday costs **€315**.
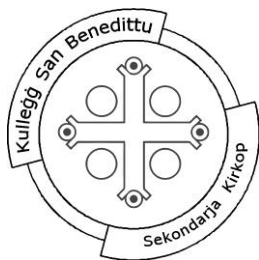   What is the cost of the holiday **per day**?

   Ans:  _____

   (2 marks)

**END OF NON CALCULATOR PAPER**

| YEAR 7 | MATHEMATICS Level 6 - 7 | TIME:  1 hr 30 mins |

Main Paper

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Main | NC | Global Mark |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max. Mark | 2 | 5 | 4 | 3 | 4 | 7 | 3 | 2 | 7 | 8 | 8 | 12 | 4 | 6 | 75 | 25 | 100 |
| Mark | | | | | | | | | | | | | | | | | |

**DO NOT WRITE ABOVE THIS LINE**

*Name: _____*          *Class: _____*

**INSTRUCTIONS TO CANDIDATES:**

- Answer all questions.

- This paper carries 75 marks.

- Calculators and mathematical instruments are allowed but all the necessary working must be shown.

1.  a)  The population of Malta  is:
     **four hundred  thirty thousand, one hundred and forty six**.
     Which of the following shows the correct number in figures?
     Underline the correct answer.

    430,146                43,146                403,146

    b)  The population of Rabat is 13,150.  Write this number in words.

    _____

    (2 marks)

2. Complete these statements by choosing numbers from the list below to make the statements true. **Each number can be used only once**.

$$3 \quad 4 \quad 13 \quad 15 \quad 25$$

a)_____ is **a multiple** of 5.

b)_____ and _____ are **prime** numbers.

c)_____ is a **factor** of 12.

d)_____ is a **square** number.

(5 marks)

3. a) Use your calculator to work out:

i) $57^2$                    Ans: _____

ii) $\sqrt[3]{2744}$                    Ans: _____

b) Arrange the following numbers in **ascending** order:

53,   5·3,   0·53   5·03.

Ans: _____, _____, _____, _____.

(4 marks)

4. **Match** the following ratios:

| 12 : 33 | | 5 : 1 |
| 8 : 20 | | 4 : 11 |
| 75 : 15 | | 2 : 5 |

(3 marks)

5. Use a **ruler** and a **protractor** to draw the following angles accurately:

   a) 45°                          b) 115°

   ├─────────────          ├─────────────
     Angle of 45°                  Angle of 115°

                                                    (4 marks)

6. The following are the ages of a team of footballers:
   32, 31, 28, 25, 25, 26, 31, 25, 20, 25, 18.

   a) Work out their **mean** age.

                                        Ans: _____

   b) Work out their **median** age.

                                        Ans: _____

   c) If another footballer, who is 26 years old, joins the team the **mode** will remain the same. State whether this statement is true or false and give a reason for your answer.

   Ans: _____

   _____

                                                    (7 marks)
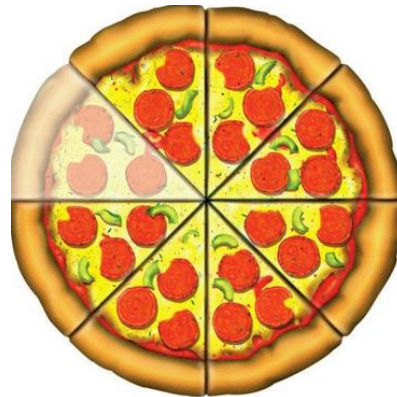
7. Look at the diagram below. Mark ate **one** slice of pizza.

   a) **Circle** the fraction that shows the number of slices **left** on the pizza.
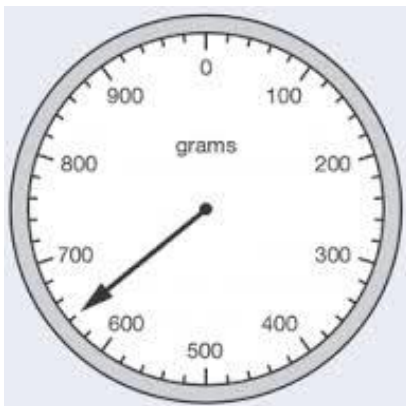
   $\dfrac{8}{8}$    $\dfrac{7}{8}$    $\dfrac{1}{8}$

   b) Express your result as a **decimal**.
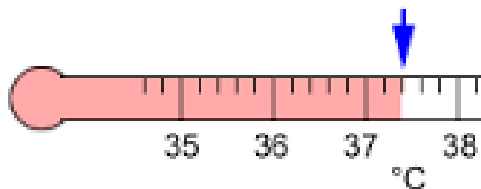
   Ans: _____

   (3 marks)

8. Read the scale marked by each of the following arrows.
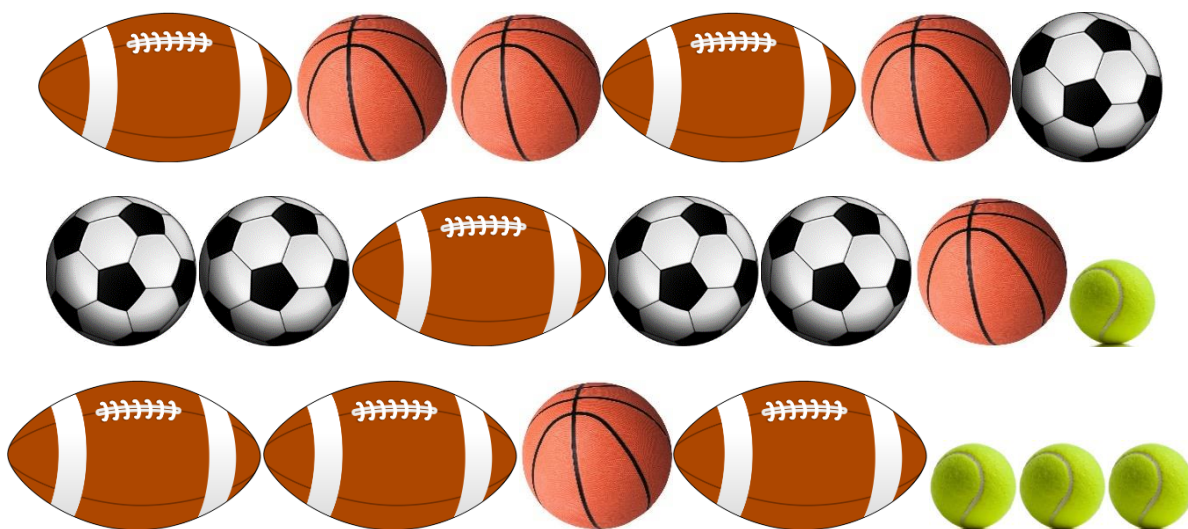
   a)

   Ans: _____g

   b)

   Ans: _____°C

   (2 marks)

9. The following are pictures of different sports balls.



a) What **fraction** of the balls are ?

Give your answer in its **simplest form**.
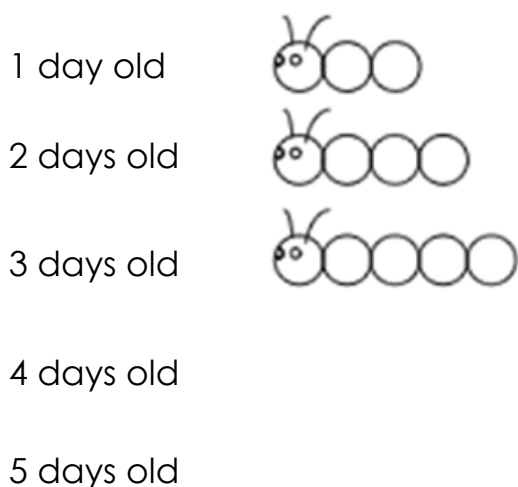
Ans: _____

b) What **percentage** are ?

Ans: _____

c) Work out the total fraction of the balls that are  and  ?

$$\frac{\boxed{\phantom{0}}}{\boxed{20}} + \frac{\boxed{\phantom{0}}}{\boxed{20}} = \frac{\boxed{\phantom{0}}}{\boxed{\phantom{0}}}$$

(7 marks)

10. The diagrams below represent the growth patterns of a caterpillar.

a) Complete the pattern below **by drawing diagrams** to represent the caterpillar's growth when it is **4 days old** and **5 days old**.

1 day old

2 days old

3 days old

4 days old

5 days old

b) **Complete** the table below representing the growth pattern:

| Number of days | Number of circles |
|----------------|-------------------|
| 1 | 3 |
| 2 | 4 |
| 3 | |
| 4 | |
| 5 | |
| 6 | |

c) How does the pattern change with **every passing day**?

_____

d) How many circles will represent the caterpillar's growth after **10 days**?

Ans: _____

e) If C represents the number of circles and Y represents the number of days, **underline** the formula which represents the growth pattern for the caterpillar:

C = Y × 2          C = Y + 2          C = Y +1
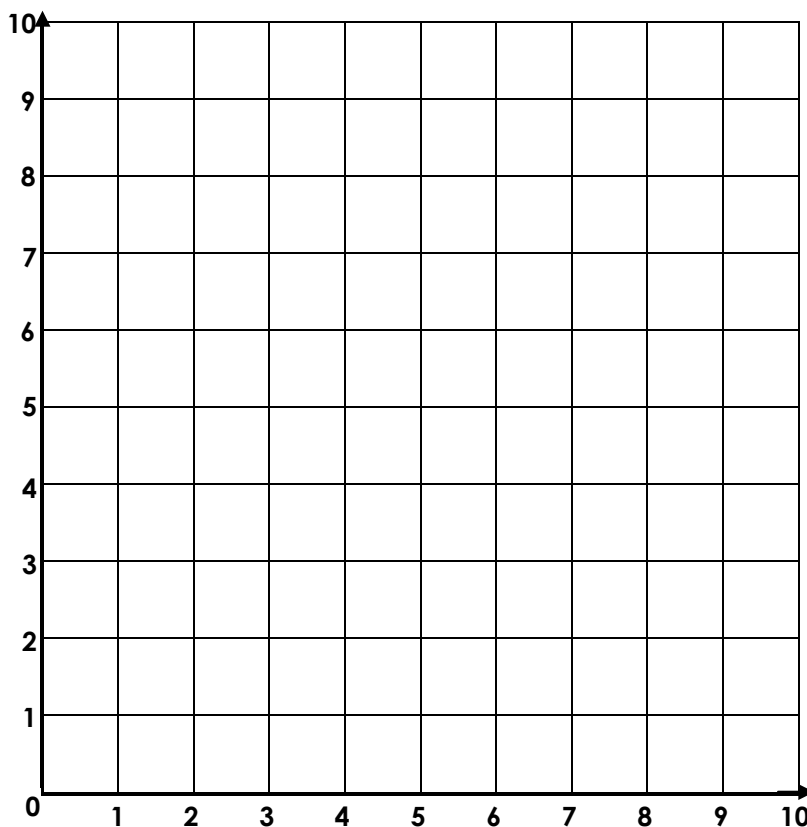
(8 marks)

11.  a)  On the grid below **plot** and **label** the following points.
        A(3, 0)      B(3, 8)      C(7, 8).

     b)  **Mark** and **label** point D on your grid such that ABCD is a
         rectangle.  Join A to B, B to C, C to D and D to A.

     c)  Write down the coordinates of D.        Ans: _____

     d)  Join A to C and B to D.  Write down the coordinates of the point
         where the 2 lines meet.

                                                 Ans: _____



(8 marks)

12. The students of Year 7 in class 7B were asked which was their favourite party food. Their answers are listed below:

| cupcakes | popcorn | popcorn | cupcakes | pizza |
| pizza | cupcakes | nuggets | pizza | sausages |
| cupcakes | popcorn | cupcakes | sandwiches | sausages |
| sausages | pizza | pizza | sausages | nuggets |
| pizza | pizza | sausages | nuggets | nuggets |

a) Fill in the frequency table below using the above data.

| Party food | Tally | Frequency |
| --- | --- | --- |
| cupcakes | | 5 |
| popcorn | | |
| sandwiches | | |
| pizza | ¦¦¦¦ ¦¦ | |
| nuggets | | |
| sausages | | |

b) Which party food is the **most** popular?

Ans: _____

c) How many **more** children prefer pizza rather than sausages?

Ans: _____

d) What is the **total** number of students in class?
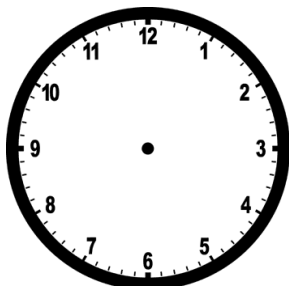
Ans: _____

e) **Draw** and **label** a bar chart on the grid below to display the party food of this group of students.
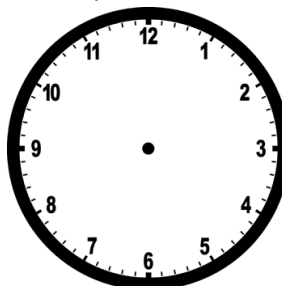
(12 marks)

13. Daniel's favourite television programme *Super Hero* starts at **quarter to four** and ends at **half past four**.

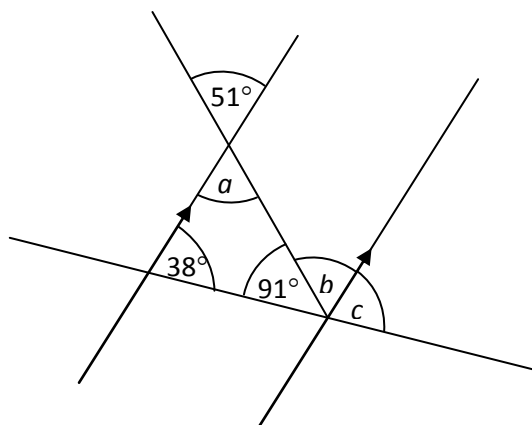a) **Mark** these times on the clock faces provided below.



| quarter to four | half past four |

b) **How long** is Daniel's favourite television programme?

Ans: _____

(4 marks)

14. Find the size of angles **a**, **b** and **c**. Give **reasons** for each of your answers.



$\hat{a}$ = _____      reason: _____

$\hat{b}$ = _____      reason: _____

$\hat{c}$ = _____      reason: _____

(6 marks)

## END OF EXAMINATION