KULLEĠĠ SAN BENEDITTU

Boys Secondary School, Kirkop

Levels 6-7

HALF-YEARLY EXAMINATIONS – FEBRUARY 2014

FORM 2   **MATHEMATICS**   **TIME: 1 h 30mins**

Levels 6-7

Main paper

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Main	NC	Global Mark
Mark																	

DO NOT WRITE ABOVE THIS LINE

INSTRUCTIONS TO CANDIDATES:

Read all the questions carefully before you start answering.

- Answer all questions.

- This paper carries 75 marks.

- Calculators and mathematical instruments are allowed but all necessary

  working must be shown.

1. (a) Write down **two multiples** of 7.   Ans: _____

   (b) Write 18 and 12 as a **product of their prime factors**.

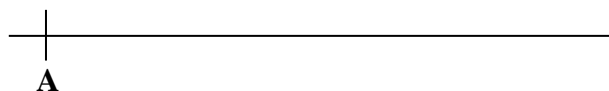   Ans: Prime factors of 18 = _____

                                          Prime factors of 12 = _____

   (c) Now, find the **L.C.M.** of 18 and 12.

                                          L.C.M. = _____

                                                          (5 marks)
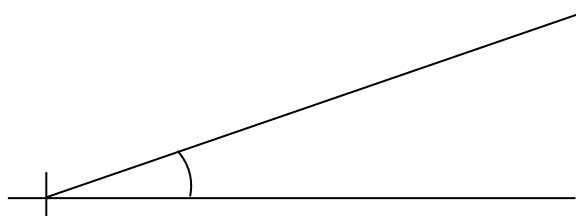
2. (a) Draw and label an angle of 115°, starting at **A**.

   A

   (b) Measure the size of the angle marked below

                                                          Ans: _____

                                                          (3 marks)

3.   (a) Arrange these fractions in **descending order** of size: $\frac{1}{3}, \frac{5}{6}, \frac{1}{2}, \frac{7}{12}$.

Ans: _____

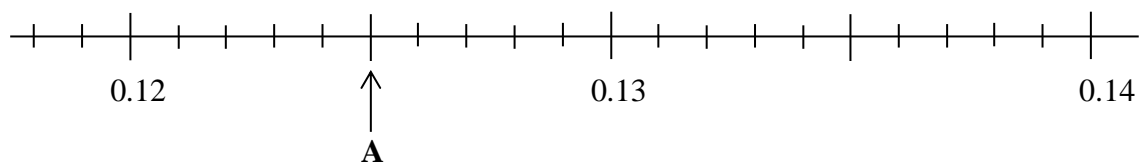(b) Find $\frac{1}{3}$ of 1 hour. Give your answer in **minutes**.

Ans: _____mins.

(4 marks)

4.   (a) Use < or > to fill in the space below

0.52   ☐ $\frac{1}{2}$

(b) What number is the arrow pointing at?

0.12   **A**   0.13   0.14

A = _____

(c) Change $\frac{7}{20}$ into a decimal.

Ans: _____

(4 marks)

5.   (a) Work out $\dfrac{4}{5} - \dfrac{3}{10} \div \dfrac{1}{2}$.

Ans: _____

(b) My bag contains 2 books each of weight $\dfrac{3}{7}$ kg and 3 folders each of weight $\dfrac{5}{21}$ kg. What is the total weight in my bag?

Ans: _____ kg

(4 marks)

6.   (a) Write 48% as a fraction in lowest term.

Ans: _____

(b) Write 0.125 as a percentage.

Ans: _____%

(c) Express 400 g as a percentage of 2 kg.

Ans: _____%

(d) In a school of 1800 students, students study either German or French. If 54% of the students study French, how many students study German?

Ans: _____ students

(7 marks)

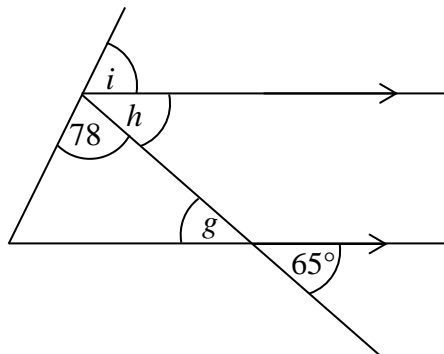7.   (a) Mark one set of parallel lines in the shape below.

(b) Find the size of the angles marked with a letter:

(i) g = _____   Reason: _____

(ii) h = _____   Reason: _____

(iii) i = _____   Reason: _____

(8 marks)

8.   (a) Decrease €210 by 10%.

Ans: €_____
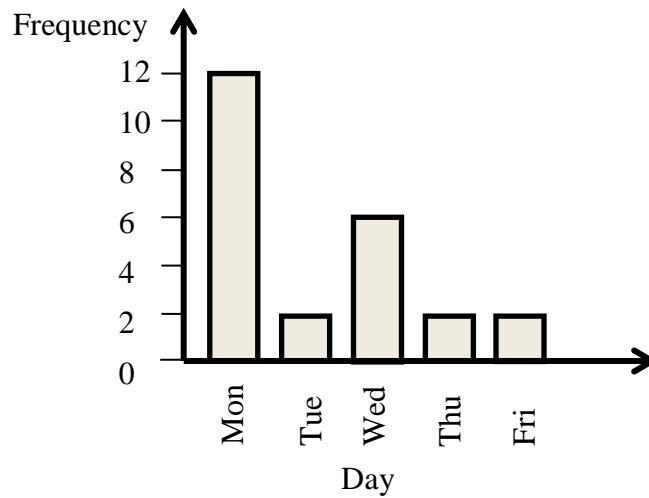
(b) A factory employs 220 workers. Next year this number will increase by 15%.

How many extra workers will be taken on?

Ans: _____ workers

(5 marks)

9.   The bar chart below shows the number of cartons of orange juice sold during a
      particular week.

(a) How many cartons of orange juice were sold in all?

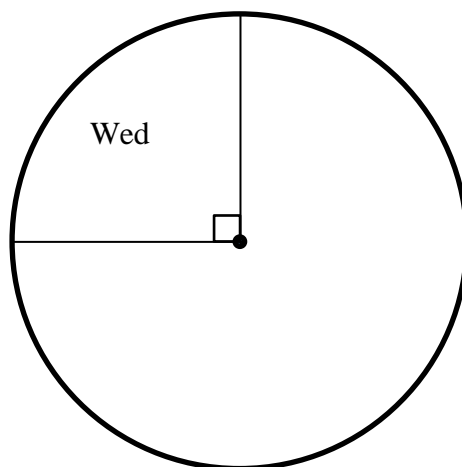   Ans: _____

(b) What was the mean number of cartons sold?

                                                          Ans: _____

(c) What was the median number of cartons sold?

                                                          Ans: _____

(d) Continue this pie chart to represent the information of the bar chart.

                                                                    (10 marks)

10.   (a) Work out the following: -5 + 3 × -2

                                                            Ans: _____

       (b) Find the value of 4 times -2.   Ans: _____

       (c) Fill in (-14) ÷ ☐ = 7.

       (d) A basketball team started the league with 6 points less than 0. The team draws the
       first 4 opening matches but win the first 5th match. If 1 point is awarded for every
       drawn game and 2 points for every win, what did the total points stand at?

                                                            Ans: _____

                                                            (6 marks)

11.   Jasmine buys **two** CDs and **three** videos. She spends €24.

       (a) Using *x* for the **price of a CD** and *y* for the **price of a video,** write down a
       formula to represent this information.

                                                            Ans: _____

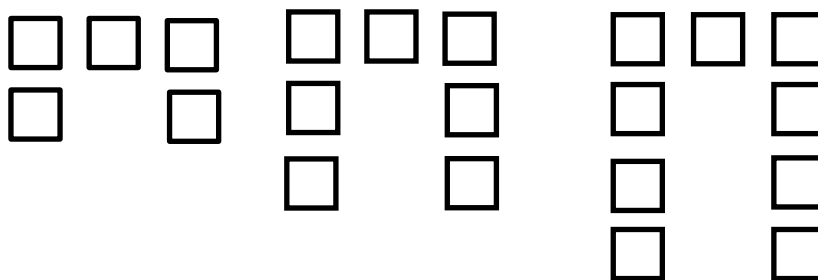   (b) Find the **cost of a video** if one CD costs €6

                                                            Ans: _____

                                                            (4 marks)

12.   (a) Give the next two terms of 3, 6, 9, 12, ____, ____.

       (b) A child is making a pattern using these tiles.

| Pattern 1 | Pattern 2 | Pattern 3 | Pattern 4 |

   (i) Draw a sketch of pattern 4.

   (ii) Complete the table.

Pattern	1	2	3	4	5
Number of tiles					

(iii) Without drawing can you say how many tiles are needed to draw pattern 10.

Ans: _____tiles

(iv) Write down in words the rule of the number of tiles needed for any pattern.

_____

(5 marks)

13.   Calculate the cost, **C**, of **two** slices of pizza and **three** hot dogs, using the formula
       C = 80p + 60h, where *p* is the number of pizza slices and *h* is the number of hot
       dogs.

Ans: _____

(3 marks)

14. The set of data below shows the height of a group of students.

102cm	110 cm	146 cm	143 cm	127 cm
112 cm	140 cm	135 cm	122 cm	106 cm
129 cm	130 cm	148 cm	145 cm	119 cm

(a) Complete this frequency table

Height, h (m)		Tally	Frequency
At Least	Below		
100	110		
110	120		
120	130		
130	140		
140	150		

(i) Is the value 110 cm included in group **'at least 100 and below 110'** or **'at least 110 and below 120'**?　　　　　　　　　　　　　Ans: _____

(ii) Which is the modal group?

　　　　　　　　　　　　　　　　　　　　　　　Ans: _____
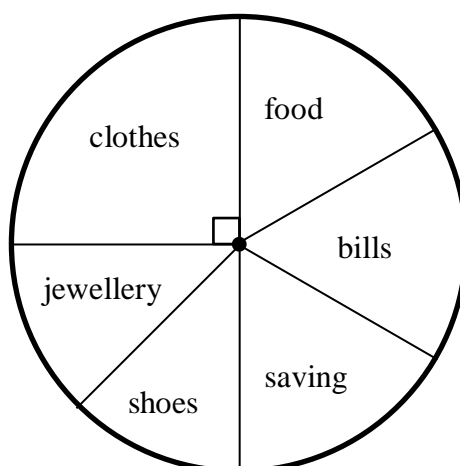
(b) The pie chart below shows how Marica spends her money.

(i) On what does she spend **most** money?

　　　　　　　　　　　　　　　　　　　　　　　Ans: _____

(ii) She spends more money on food than on _____

(iii) She spends ¼ of her money on clothes. She spends another ¼ on _____ and _____ together.

(7 marks)

END OF EXAM