KULLEĠĠ SAN BENEDITTU
Secondary School, Kirkop

HALF YEARLY EXAMINATION – 2015/2016

Level 7 – 8

YEAR 7   **MATHEMATICS Level 7 - 8**   **TIME: 30 mins**

Non Calculator Paper

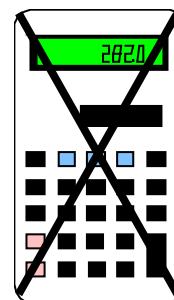| Question	1	2	3	4	5	TOTAL
Max. Mark	9	5	3	2	6	25
Mark						

DO NOT WRITE ABOVE THIS LINE

Name: _____ *Class:* _____

INSTRUCTIONS TO CANDIDATES:

Read all the questions carefully before you start answering.

- Answer all questions.

- This paper carries 25 marks.

- **Calculators, protractors** and other mathematical instruments are **NOT ALLOWED.**

1. (a) Fill in the blanks:

$$0.24 = \underline{\quad}\% = \frac{\boxed{}}{100} = \frac{6}{\boxed{}}$$

(b) Change $\frac{3}{20}$ to a **decimal**.

Answer: _____

(c) Work out $\frac{5}{8}$ of 32 m.

Answer: _____ **m**

(d) Find 10% of €240.

Answer: € _____

(e) Work out $\frac{3}{4} + \frac{1}{8} - \frac{1}{2}$

Answer: _____

(f) Work out $\frac{2}{5} \times \frac{10}{7}$

Answer: _____

(9 marks)

2. (a) I buy 2 pens costing 74c each and a diary costing €3.60.
       What **change** do I get from €10?

       Answer: _____

   (b) A packet of 6 cereal bars costs €2.88. What is the cost of 1 cereal bar?

       Answer: _____

       (5 marks)

3. The area of the Mediterranean Sea is about 2,500,000 km^2.

   The area of the English Channel is about 89,900 km^2.

   (a) What is the **difference** between the above areas?

       Answer: _____ km^2

   (b) Write down your answer to part (a) in **words**.

   Answer: _____

   _____

   (3 marks)

4. Find the value of seventy eight **multiplied by itself**.

Answer: _____

(2 marks)

5. (a) **Write the values** of each of the following numbers on the lines provided.

Example: 6 hundred $\rightarrow$ 600

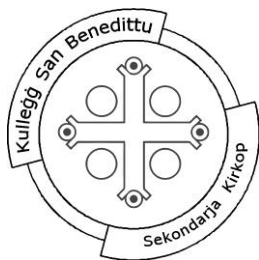4 billion 10^4 $50,000 \div 20$ 36×1000 5^3

_____ _____ _____ _____ _____

(b) Put the above numbers **in order, smallest first**.

Smallest first: _____

(6 marks)

END OF NON CALCULATOR PAPER

KULLEĠĠ SAN BENEDITTU
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HALF YEARLY EXAMINATION – 2015/2016

Level 7 – 8

YEAR 7   **MATHEMATICS** Level 7 - 8   **TIME: 1 hr 30 mins**

Main Paper

Ques.	1	2	3	4	5	6	7	8	9	10	11	12	13	Main	NC	Global Mark
Max. Mark	5	2	4	8	4	2	3	5	7	12	9	7	7	75	25	**100**
Mark																

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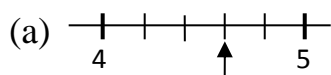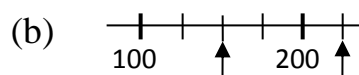
Name: _____   *Class:* _____

INSTRUCTIONS TO CANDIDATES

- **Answer all questions.**

- **This paper carries 75 marks.**

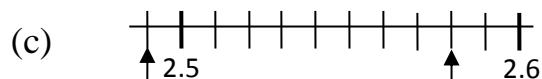- **Calculators and mathematical instruments are allowed but all necessary working must be shown.**

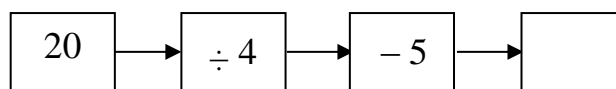1. Read the following scales

(a)

4 | | | ↑ | 5

Answer: _____

(b)

100 | ↑ | 200 ↑

Answers: _____ _____

(c)

↑ 2.5 | | | | | ↑ | 2.6

Answers: _____   _____

(5 marks)

2. Change 384 **hours** into days.

Answer: _____ days

(2 marks)

3. (a) Work out the **output**:

$$20 \rightarrow \div 4 \rightarrow -5 \rightarrow \boxed{}$$

(b) Work out the **input**:

$$\boxed{} \rightarrow \div 5 \rightarrow 3$$
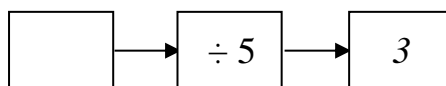
(c) Write down **a possible rule** for this number machine.

$$5 \rightarrow \boxed{} \rightarrow 30$$

(4 marks)

4. (a) i) List all the **even numbers** between 5 and 15.

Even numbers: _____

ii) Find their **mean**.

Answer: Mean: _____

(b) i) List all the **factors of 20**.

Factors of 20: _____

ii) Find their **range**.

Answer: Range: _____

(c) i) Write down all the **multiples of 4** from 10 to 30.

Multiples of 4: _____

ii) Find their **median**.

Answer: Median: _____

(8 marks)

5. Fill in using words from the following:

acute, obtuse, reflex, straight line, whole turn

Straight line = obtuse + _____

_____ = straight line + 180 ˚

_____ = obtuse + obtuse

_____ = 132˚ + 48˚

(4 marks)

6. Use the **calculator** to work out the following:

(a) $\sqrt{529} + 19^2$

Answer: _____

(b) $\dfrac{3}{4} + \dfrac{1}{3} - \dfrac{3}{8}$

Answer: _____

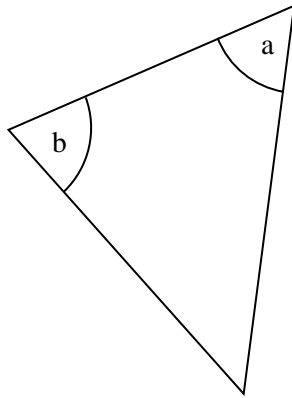(2 marks)

7. The school population in a middle school is 480.
There are 42 more girls than boys.
How many **girls** are there?
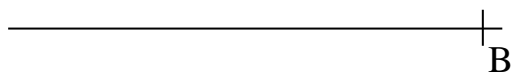
Answer: _____

(3 marks)

8. (a)

    i.   Measure the angles :

$$\angle \mathbf{a} = \underline{\hspace{2cm}}^{\circ}$$

$$\angle \mathbf{b} = \underline{\hspace{2cm}}^{\circ}$$

    ii. Is this triangle scalene, isosceles or equilateral? Give a **reason** for your answer.

_____

(b) Use your **protractor** to draw an angle of 49° at B. **Mark** the angle with an arc.

B

(5 marks)

9. (a) Write down any **2 factors** of 736.

Answer: _____

(b) Find **one common multiple** of 15 and 20.

Answer: _____

(c) Which of the following numbers is **prime**?
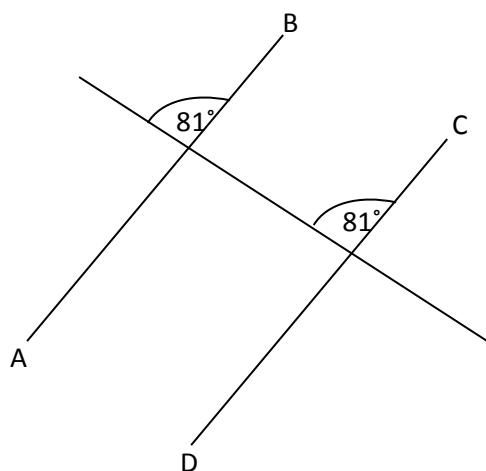
51, 52, 55, 59

Answer: _____

(d) Write down 252 as a **product of its prime factors**.

Answer: _____

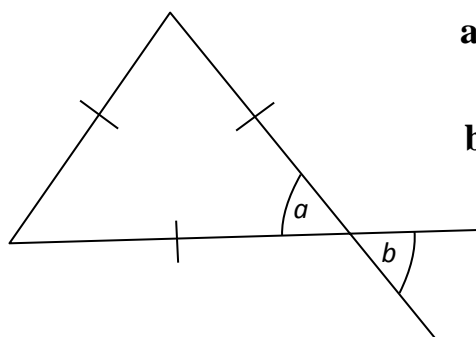(7 marks)

10. (a) What can you say about lines AB and CD?

Give a reason for your answer.

B

81°

C

81°

A

D

_____

_____

(b) Find the size of each angle marked with a letter.
Give reasons for your answers.

i.

a

b

a = _____ °   _____

b = _____ °   _____

ii.

112°   d   85°

e   c

c = _____ °   _____
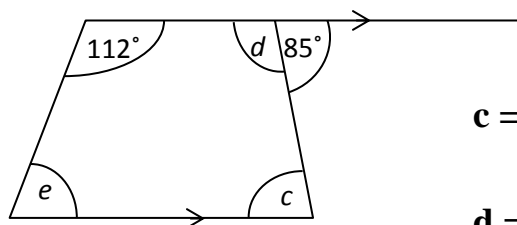
d = _____ °   _____

e = _____ °   _____

(12 marks)

11. On a particular morning a group of university students recorded how long it took them to get from home to university. The following were the results in minutes:

17	25	42	16	18	36	51	20	9	41
72	65	41	45	30	19	27	34	39	40
11	13	25	42	55	68	75	32	44	49

(a) Fill in the **frequency table** below:

Time (in minutes)	Tally	Frequency
1 – 15		
16 – 30		
31 – 45		
46 – 60		
61 – 75		

Total :_____

(b) How many students took **longer than an hour** to get to university?

Answer:_____

(c) How many students took **half an hour or less** to get to university?

Answer:_____

(d) What fraction of the students took **up to an hour** to get to university? **Simplify** your answer.

Answer:_____
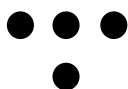
(e) Using the frequency table **<u>only</u>**, is it possible to say whether any students took exactly 50 minutes to get to university? Why?

_____
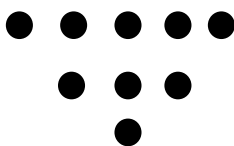
_____

(9 marks)

12. a) Draw the next pattern in the following sequence:

Pattern 1　　**Pattern 2**　　　**Pattern 3**　　　　**Pattern 4**

b) Fill in the following table

Pattern number	1	2	3	4	5	6	....	10
Number of dots	1	4						

c) Underline the correct word:

The numbers of dots in each pattern are all (prime , even , square) numbers.

d) If I continue the pattern will there be a pattern that uses exactly 150 dots? Explain.

_____

_____

(7 marks)

13. (a) **Plot** and **label** the following points on the axes below:
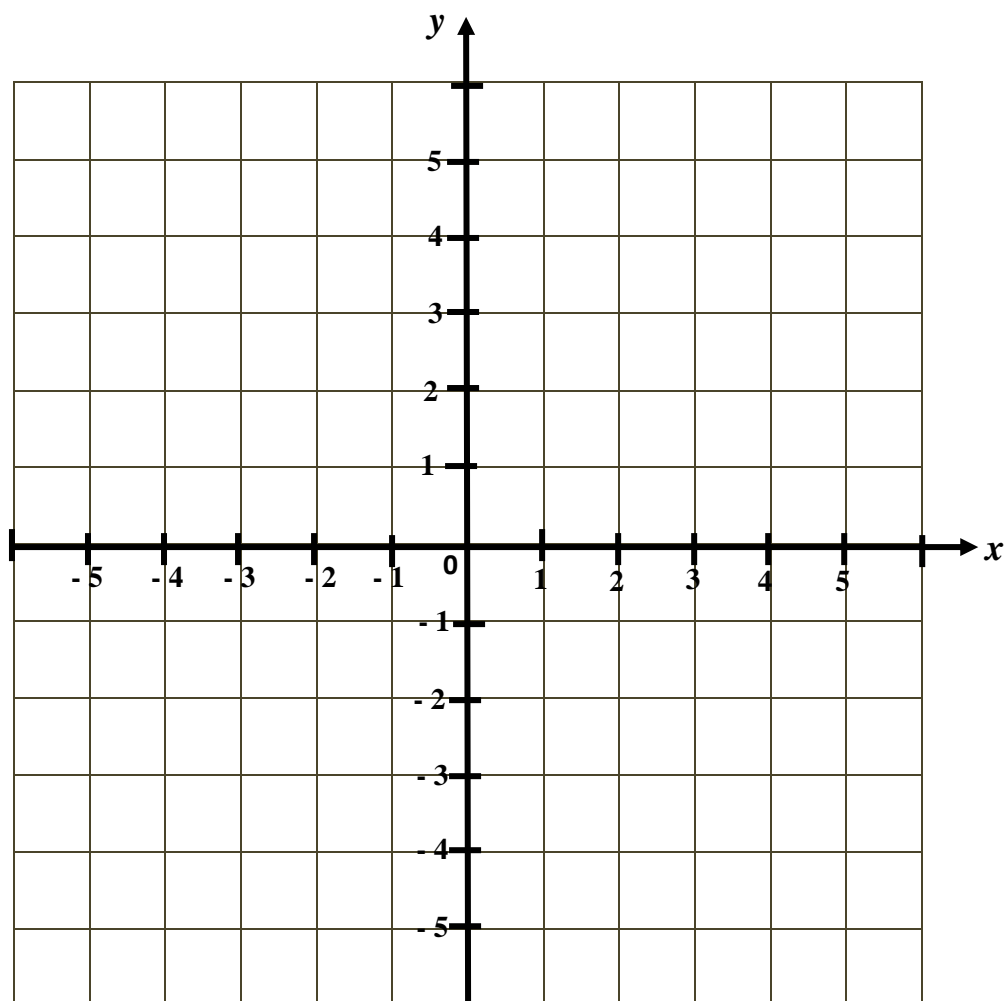
A (–4, 3),   B (2, 3),   C (2, –3).

(b) **Plot point D** such that ABCD forms a square.

Write down the coordinates of D.

D = (_____, _____)

(c) **Join the diagonals** of the square and read the coordinates of the point where they meet.

Answer: _____

(7 marks)

END OF PAPER