KULLEĠĠ SAN BENEDITTU
Secondary School, Kirkop

Mark

HALF YEARLY EXAMINATION – 2015/2016

Level 7 – 8

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

Non Calculator Paper

Question	1	2	3	4	5	6	7	8	9	10	NC
Max. Mark	3	3	1	2	3	3	2	3	3	2	25
Mark											

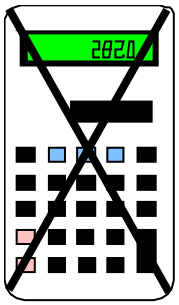
DO NOT WRITE ABOVE THIS LINE

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. Arrange in order, smallest first:

$$\frac{3}{10}, \quad \frac{31}{100}, \quad 33.4\%, \quad 0.333, \quad \frac{1}{3}$$

Ans: _____

(3 marks)

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2. Estimate: $\dfrac{19.7 \times 3.05}{4.5}$

$$\approx \frac{\square \times \square}{\square}$$

Ans: _____

(3 marks)

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3. Fill in with + or − to make the smallest possible answer:

$$(-13) \quad \square \quad (-5)$$

(1 mark)

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4. Alan and Joan skip down the road.
   Alan's skip is 80 cm long while Joan's skip is 100 cm long.
   They start together in step. How far do they skip before they are in step again?

Ans: _____ cm

(2 marks)

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5. Work out the following:

a) $306 \times (-8) =$ Ans = _____

b) $2.75 - (-0.25) =$ Ans = _____

c) $4 \times 5 - 14 \div 2 =$ Ans = _____

(3 marks)

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6. Mrs. Zammit decided to recycle her rubbish. In one week, her rubbish weighed 25kg. She was able to recycle 16kg of it.

a) What **fraction** did she recycle?

Ans: _____

b) What is this as a **percentage**?

Ans: _____

c) Write the answer in part (b) as a **decimal number** rounded to 1 decimal place.

Ans: _____

(3 marks)

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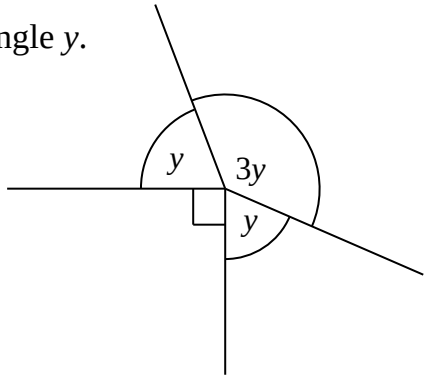
7. Find the value of angle *y*.



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Ans: _____

(2 marks)

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8. Write 240 as a product of its prime factors. Write your answer in index form.

Ans: _____

(3 marks)

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9. A shoe shop sold 7 pairs of shoes in a day. The sizes of the shoes sold were:

38, 36, 35, 40, 43, 43, 37

From the above sizes find:

a) the mode

Ans: _____

b) the median

Ans: _____

c) the range

Ans: _____

(3 marks)

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10. a) Simplify: $2x + 3y - 4x + 2y =$ _____

b) Expand: $3(a + 2b) =$ _____

(2 marks)

END OF NON CALCULATOR PAPER

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HALF YEARLY EXAMINATION – 2015/2016

Level 7 – 8

YEAR 8 **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	2	2	5	10	3	4	3	3	4	14	10	8	7	75	25	100
Mark																

DO NOT WRITE ABOVE THIS LINE

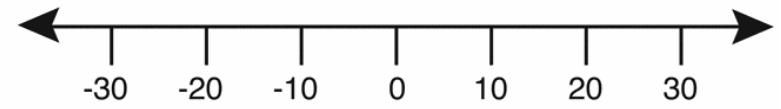
Name: _____ *Class:* _____

INSTRUCTIONS TO CANDIDATES:

Read all the questions carefully before you start answering.

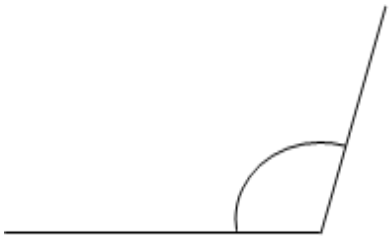
- Answer all questions.
- This paper carries 75 marks.
- Calculators and mathematical instruments are allowed but all necessary working must be shown.

1. Draw the inequality $x \geq -10$ on the number line below:



(2 marks)

2. **Measure** this angle and fill in:



This angle is _____ ° and is called (acute, reflex, obtuse).

(2 marks)

3. a) **Factorise completely**: $18f + 63m - 117d$

Ans: _____

b) Nessa put a container with 2250 cm^3 of water in a freezer. The day after, she took the container out and measured the volume of ice. She recorded the volume as 2340 cm^3.
Find the **percentage increase** in the volume.

Ans: _____ %

(5 marks)

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4. a) (i) Write down **all** the factors of 24 and 78.

Factors of 24: _____, _____, _____, _____, _____, _____, _____, _____

Factors of 78: _____, _____, _____, _____, _____, _____, _____, _____

(ii) Which of the above factors are **prime** numbers?

Prime Numbers: _____, _____, _____

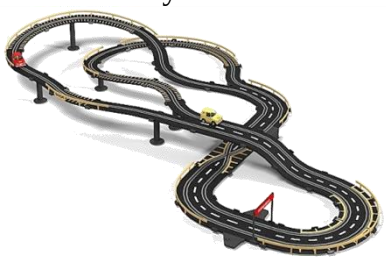
(iii) What is the H.C.F of 24 and 78?

Ans: H.C.F: _____

b) Ian is playing with his toy cars. The time taken for the cars to complete the track is:

15 seconds for the green car,
20 seconds for the yellow car and
24 seconds for the orange car.

If they all start at the same time, after how many **minutes** will they be side by side again?



Ans: _____ minutes

(10 marks)

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5. Use a calculator to evaluate:

a) $\frac{1}{4}+\frac{3}{5}-\frac{1}{8}=$ _____

b) $\sqrt{29+1.25}=$ _____

c) Half of 2^6 = _____

(3 marks)

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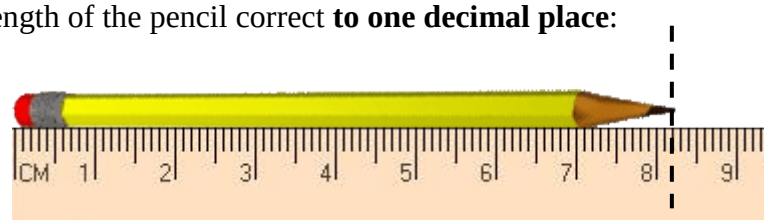
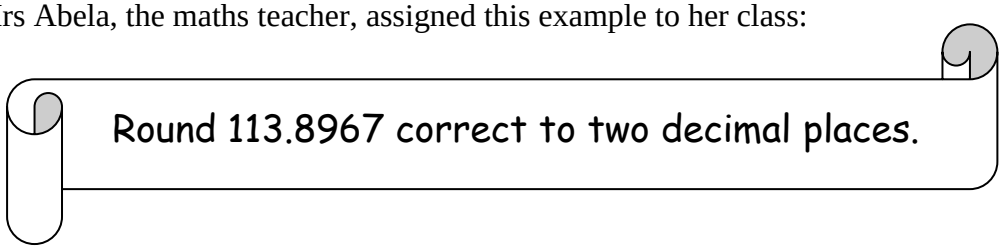
6. a) Write the length of the pencil correct **to one decimal place**:



The pencil is _____ cm long.

b) Mrs Abela, the maths teacher, assigned this example to her class:



Francesca, one of the students, gave the answer as **113.81.**

Pierre, another student, wrote his answer as **113.90.**

Ella, another student, wrote her answer as **113.89.**

i) **Who** got the **correct** answer? _____ .

ii) **Why** are the other two **answers wrong**?

Wrong Answer 1 because _____

_____.

Wrong Answer 2 because _____

_____.

(4 marks)

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7. a) Write **>, < or =** in the given spaces.

i) -4×2 ☐ $-4 + (-4)$

ii) $-3 - (-7)$ ☐ $16 \div (-4)$

b) What is **half way** between – 6 and 2?

Answer: _____

(3 marks)

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8. Work out by filling in the spaces, giving your answer **in its lowest terms**:

$$\frac{135}{156} \times \frac{28}{90} \div \frac{42}{65}$$

$$\frac{\square}{\square} \square \frac{\square}{\square} \square \frac{\square}{\square}$$

$$= \frac{\square}{\square}$$

(3 marks)

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9. An energy saving fridge **saves 48%** of the consumption of electricity **per year** when compared to an old fridge.

a) If an old fridge consumes **295 kW of electricity in a year**, how many kW of electricity are saved by an energy saving fridge?

Ans: _____ kW

b) How many kW of electricity will the energy saving fridge consume in one year?

Ans: _____ kW

(4 marks)

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10. a) **Draw and label** an angle of:

i) 75°

ii) 290°

b) i) Work out the size of angles ***a***, ***b***, ***c*** and ***d***. Give reasons for your answers.

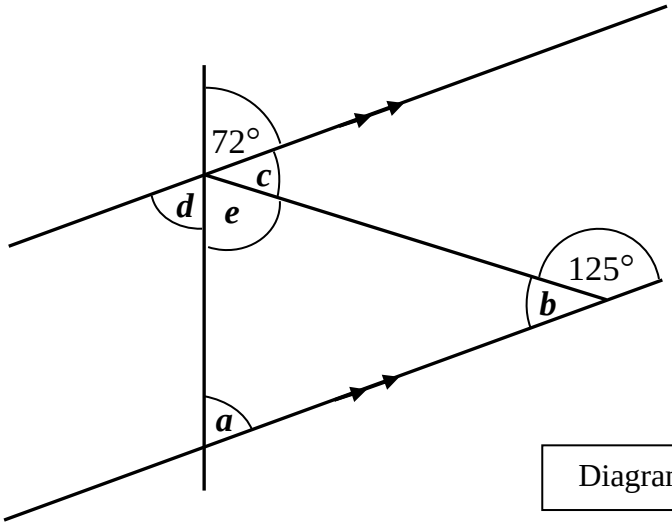


Diagram not drawn to scale

a = _____ ° reason: _____

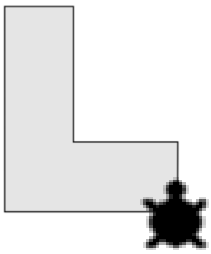
b = _____ ° reason: _____

c = _____ ° reason: _____

d = _____ ° reason: _____

ii) State the reason why **∠a + ∠e = 125°**: _____.

c) *This question is about LOGO.* Fill in the missing commands to form the given shape.



PD FD 60 LT 90 FD 85 _____ 90

FD 120 _____ 90 FD 30 LT 90

FD _____ LT 90 FD _____

(14 marks)

11. a) Work out the following:

i) $1\frac{1}{3} + 3\frac{2}{5}$

$\frac{\square}{3} + \frac{\square}{5}$

$\frac{\square}{\square} + \frac{\square}{\square}$

$\frac{\square}{\square} = \square\frac{\square}{\square}$

ii) $5\frac{4}{7} - \frac{2}{5}$

$\frac{\square}{7} - \frac{\square}{5}$

$\frac{\square}{\square} \quad \frac{\square}{\square}$

$\frac{\square}{\square} = \square\frac{\square}{\square}$

b) At a bazaar organized by the school students council €5000 were collected. From this sum €400 were used to pay the expenses and $\frac{4}{5}$ **of the remaining sum of money** was given to a charity organisation.

The **money left** was used to buy books for the school library.

i) Find the amount of money given to charity.

Ans: €_____

ii) Calculate the amount of money left for buying books.

Ans: €_____

(10 marks)

12. The following is a list of the height (in metres) of the tallest buildings in the world.

828 632 601 541 530 509

492 484 452 452 450

Burj Khalifa, in Dubai, is the tallest building in the world.

a) From the above heights, work out:

i) Mean, correct to two decimal places

Ans: _____ m

ii) Median

Ans: _____ m

iii) Mode

Ans: _____ m

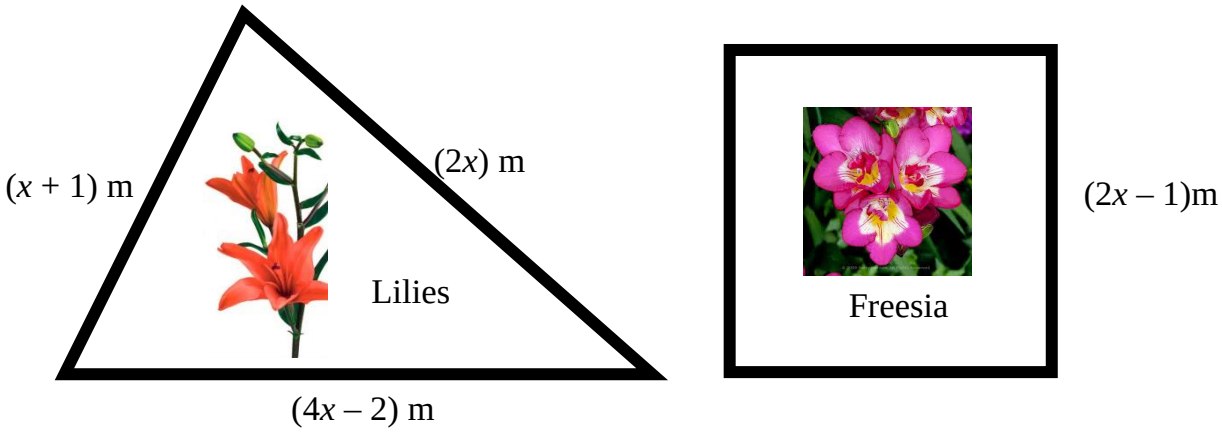
b) Show that the **range** of these buildings is 378 m.

c) Using the above list of heights, complete the frequency table:

Height of building (in metres)	**Tally**	**Frequency**
400 – 499		
500 – 599	| | |	3
600 – 699		
700 – 799		
800 – 899		

(8 marks)

13. Mr Cachia wants to plant some flowers in his large garden.
He wants to plant lilies in a triangular bed and freesia in a square bed as shown below:



a) **Write and simplify** an expression for the **perimeter** of the lilies bed.

Ans: _____

b) **Write and simplify** an expression for the **perimeter** of the freesia bed.

Ans: _____

c) If both spaces have **equal perimeter**, **write an equation and solve it** to find the value of *x*.

Equation: _____

Working:

Ans: x = _____

(7 marks)

END OF MAIN PAPER