

KULLEĠĠ SAN BENEDITTU Secondary School, Kirkop

Mark

HALF YEARLY EXAMINATION – 2016/2017

Levels 7-8

YEAR 8

MATHEMATICS

TIME: 30 mins

Non Calculator Paper

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

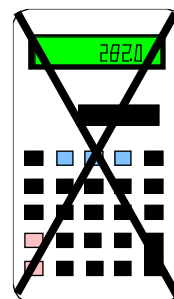
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Name: _____

Class: _____

INSTRUCTIONS TO CANDIDATES:

- Answer ALL questions.
- This paper carries a total of 25 marks.
- Calculators and protractors are NOT ALLOWED.



1. Express 88 as the **product of prime factors**.

Ans: _____

(2 marks)

2. (a) Write the following as **decimals**.

(i) $\frac{1}{8} =$ _____

(ii) $18 \div 1000 =$ _____

(iii) $22\frac{1}{3}\% =$ _____

(iv) $0.003 \times 100 =$ _____

- (b) Arrange your **answers** in order of size, **smallest first**.

Ans: _____

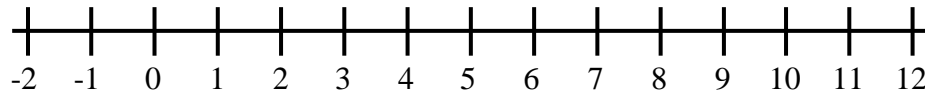
(4 marks)

3. **Expand and Simplify:** $5(y + 1) - 3(y - 2)$

Ans: _____

(3 marks)

4. (a) Show this range of values on a number line: $x < 10$



- (b) Kyle says, "10 lies in this range."
Carmen disagrees with Kyle.

(i) Who is right? _____

(ii) Why?

(3 marks)

-
5. Here are the daily temperatures for a week in spring in Malta.

21°C, 20°C, 21°C, 18°C, 22°C, 21°C, 22°C

Work out:

- a) The **mean** temperature, giving your answer to 1 d.p.

Ans: _____

- b) The **median** temperature.

Ans: _____

- c) The temperature **range**.

Ans: _____

(4 marks)

6. (a) $\frac{3}{4}$ is called a proper fraction.

Explain what a **proper fraction** is.

Ans : _____

- (b) In his refrigerator, Peter has **3** full cartons of milk, another carton which is $\frac{1}{5}$ full and another carton which is $\frac{3}{4}$ empty. What is the total number of cartons of milk that Peter has in all? Give your answer as a **mixed number**.

Ans: _____

(4 marks)

7. (a) Fill in the **missing** numbers:

(i) $9 + \boxed{} = +1$

(ii) $5 - \boxed{} = -6$

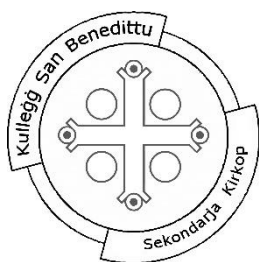
(iii) $\boxed{} \times -9 = 63$

- (b) A diver is 56 metres **below** sea level. A parachutist is 242 metres **above** sea level. How much is the parachutist above the diver?

Ans: _____

(5 marks)

END OF NON CALCULATOR PAPER



KULLEGG SAN BENEDITTU Secondary School, Kirkop

Mark

HALF YEARLY EXAMINATION – 2016/2017

Levels 7-8

YEAR 8

MATHEMATICS

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	7	5	3	4	8	7	5	6	8	5	3	6	8	75	25	100
Mark																

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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. (a) Work out the HCF of 80 and 120.

Answer: _____

(b) 'Sunshine Cruises' offers two types of boat cruises:

- one leaves from Wied iż- Żurrieq to Blue Grotto every 30 minutes
- the other leaves from the same point to Filfla every 45 minutes

The first trips leave together at 8.30 a.m. When will they leave together again?

Answer: _____

(7 marks)

2. (a) Work out a **rough estimate** for $\frac{14.7 \times 3.2}{1.91}$

Answer: _____

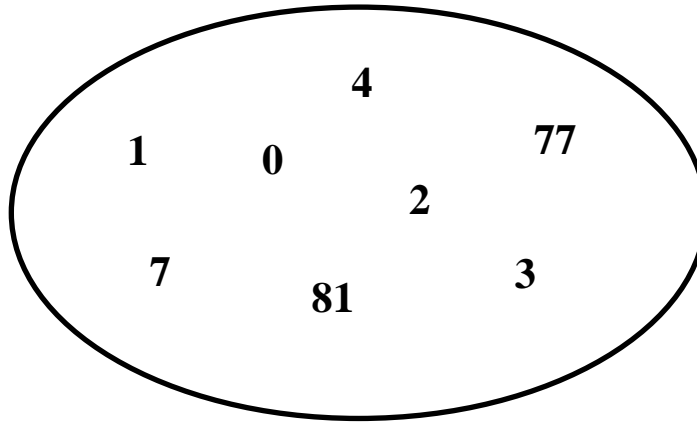
(b) Find the **exact value**, giving your answer correct to **1d.p.**

$$\frac{14.7 \times 3.2}{1.91}$$

Answer: _____

(5 marks)

3.



Which of the numbers shown in the oval above is:

(a) an **even prime** number?

(b) an **odd square** number?

(c) a **common factor** of both **15** and **21**?

(3 marks)

4. Work out **using the calculator**:

(a) $\left(\frac{3}{4} \times \frac{1}{8}\right) \div \frac{1}{2}$

Answer: _____

(b) $\frac{8^2}{250}$

Answer: _____

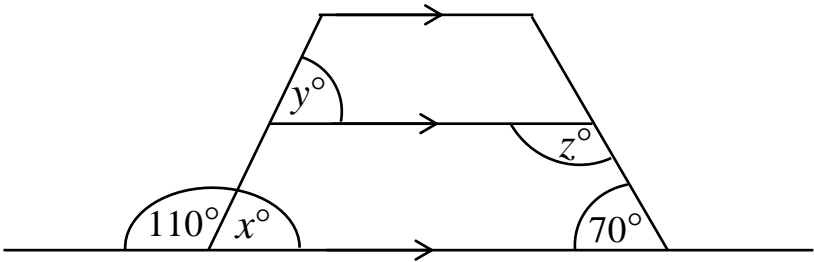
(c) $\sqrt[3]{15 + 497}$

Answer: _____

(4 marks)

5. For each diagram, find the **missing angles**, giving **reasons** for your answers.

(a)



$x^\circ = \text{_____}^\circ$

reason: _____

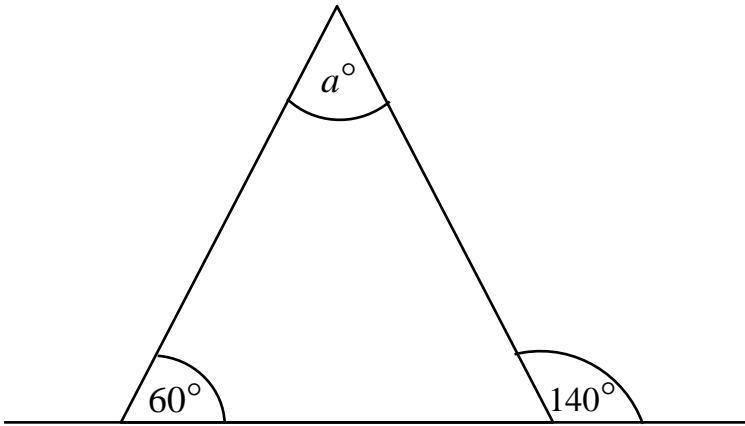
$y^\circ = \text{_____}^\circ$

reason: _____

$z^\circ = \text{_____}^\circ$

reason: _____

(b)



$a^\circ = \text{_____}^\circ$

reason: _____

(8 marks)

6. (a) Factorise : $21m - 14n + 35$

Answer: _____

(b) Solve : (i) $2x - 5 = 21$

Answer: _____

(ii) $4(3x + 2) = 68$

Answer: _____

(7 marks)

7. Peter buys a car for €3500. He pays a deposit of $\frac{2}{7}$ of the price.

(a) How much **deposit** does he pay?

Answer: € _____

(b) He pays the rest in five equal instalments. How much must he pay **each time**?



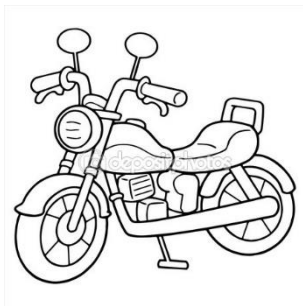
Answer: € _____

(5 marks)

8. (a) There are **200 children** in a school. **120** of the children are **boys**.
What percentage of the children are **girls** ?

Answer: _____

- (b) The value of a new motorcycle is **€12 000**.
After one year this value goes **down** by **20%**.
Work out the **new value** of the motorcycle.



Answer: € _____

(6 marks)

9. The frequency table below shows information about people's favourite holiday.

Type of holiday	Frequency
Walking	8
Skiing	10
Cycling	7
Sunbathing	11

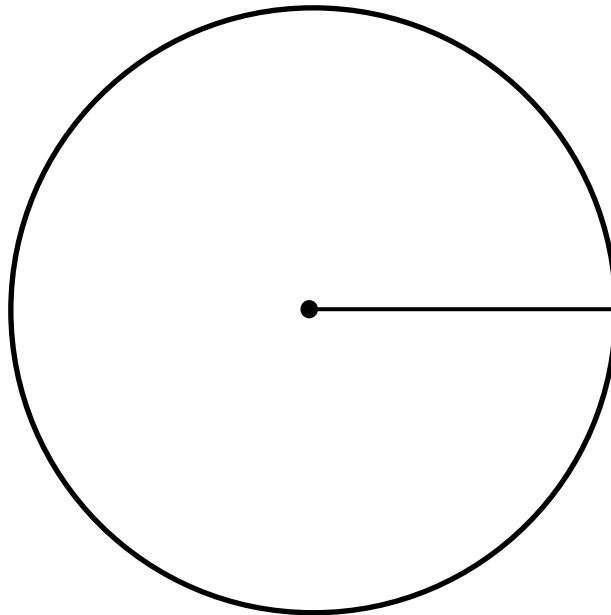
(a) How many people were asked in **all**?

Answer: _____

(b) What is the **modal** favourite holiday?

Answer: _____

(c) Represent this information on the **pie chart** below:



(8 marks)

10. Sharon thought of a number, **multiplied it by 4** and **added 2**.

Kyle thought of the **same** number, **multiplied** it by **7** and **subtracted 4**.

Sharon's and Kyle's answers were the same.

(a) Write down an **expression** to represent **Sharon's** answer.

Answer: _____

(b) Write down an **expression** to represent **Kyle's** answer.

Answer: _____

(c) **Form** an equation and **solve** it to find the number they each thought of.

Answer: _____

(5 marks)

11. A bracelet costs €80, **not including** VAT.

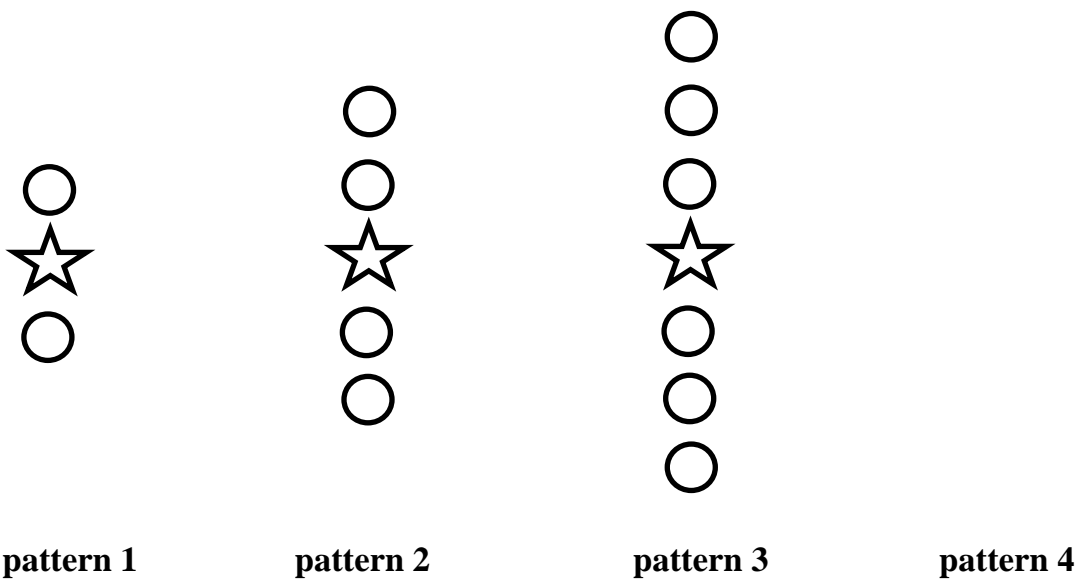
VAT is charged at $17\frac{1}{2}\%$. Work out the cost of the bracelet **including** VAT.



Answer: € _____

(3 marks)

12. Look at the pattern below:



(a) Draw the 4th pattern.

(b) Fill in the following table:

Pattern number	1	2	3	4		10
Number of Circles	2					
Number of Stars	1					
Total Shapes	3					

(c) Write down the **nth term** for the **number of circles** in the pattern.

Answer: _____

(6 marks)

13. On Saturday, Mariah recorded the ages of the people using the swimming pool at “Keep Fit” sports complex. The following are the recorded ages:

19 22 35 24 26 32 21 32 39
 35 40 31 28 21 25 30 18 25
 34 34 23 33 34 26 28 26 22

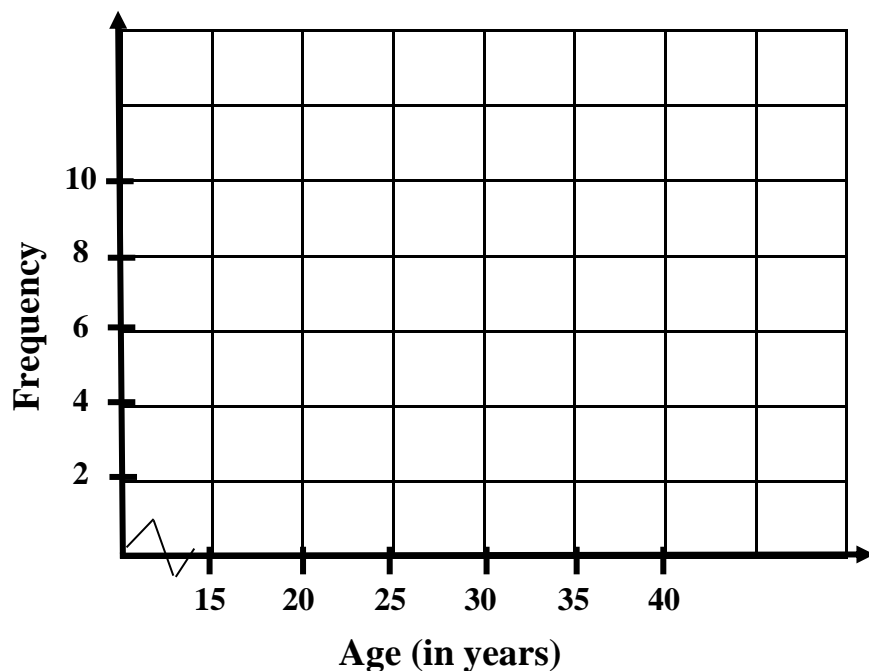
- (a) What is the age range?

Answer: _____

- (b) Complete Mariah’s frequency table using the above raw data:

Age (in years)	Tally	Frequency
$15 < x \leq 20$		
$20 < x \leq 25$		
$25 < x \leq 30$		
$30 < x \leq 35$		
$35 < x \leq 40$		
Total		

- (c) Represent the data from the frequency table above on the bar chart below:



(8 marks)

END OF PAPER