# KULLEĠĠ SAN BENEDITTU
# Secondary School, Kirkop

## HALF YEARLY EXAMINATION – 2014/2015

**Track 1**

**FORM 4**      **MATHEMATICS** Track 1      **TIME: 20 mins**

**NAME:** _____     **INDEX NO.** _____     **Class:** _____
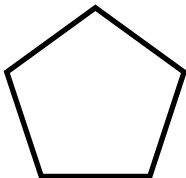
### Non Calculator Paper

**Mark**

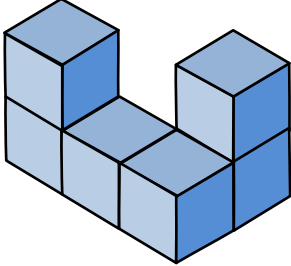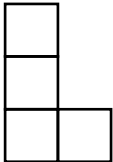**DO NOT WRITE ABOVE THIS LINE**

___

<u>**INSTRUCTIONS TO CANDIDATES**</u>:

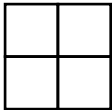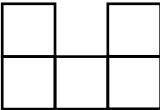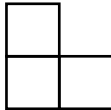**Read all the questions carefully before you start answering.**

- Answer all questions.

- This paper carries 20 marks.

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

- On your desk you should have nothing except for **pen, pencil, ruler** and the **examination paper**.

- You are not required to show your working.  However, space for working is provided if you need it.
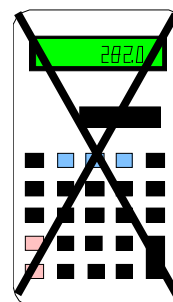
| No. | Question | Space for working, if required. |
|-----|----------|--------------------------------|
| 1 | Write the value of $\sqrt{81}$. <br><br> Answer: _____ | |
| 2 | Work out a rough **estimate** for:  $78 \times 1.9$ <br><br> Answer: _____ | |
| 3 | Write in order, from smallest to largest: <br><br> 9.78,  12,  4 <br><br> Answer: _____, _____,_____ | |
| 4 | Work out:  **$2.25 \times 100$** <br><br> Answer: _____ | |
| 5 | If the height of a 10 year old boy is 100 cm, which is the **best estimate** for the height of his father? <br><br> A)  80 cm <br><br> B)  100 cm <br><br> C)  170 cm <br><br> D)  270 cm <br><br> Answer: _____ | |
| 6 | Work out:  **$5432 - 200$** <br><br> Answer: _____ | |
| 7 | How many **lines of symmetry** does a **regular pentagon** have? <br><br> Answer: _____ | |

| | | |
|---|---|---|
| **8** | Which number is **half way** between 4.3 and 4.4?<br><br>Answer: _____ | |
| **9** | Which of these is a **common factor** of 10 and 20:<br><br>A) 4<br><br>B) 5<br><br>C) 6<br><br>D) 7<br><br>Answer: _____ | |
| **10** | Work out: **124 ÷ 4**<br><br>Answer: _____ | |
| **11** | Work out the value of $x + 5$, when $x = -3$.<br><br>Answer: _____ | |
| **12** | Peter has a rope of length **1.3 m**. He cuts off **60 cm** from it. What is the **new** length of the rope?<br><br>Answer: _____ | |
| **13** | Three children have the following money in their pocket:<br>**€3, €1.43, €1.10**<br><br>What is the range of the above?<br><br>Answer: €_____ | |
| **14** | Fill in: $20 \times 8 + 20 = \boxed{\phantom{xxx}}$ | |
| **15** | Work out: $5^3$<br><br>Answer: _____ | |

| | |
|---|---|
| **16** | Which of the following is the **plan view** of the above shape?<br><br><br><br>A) ⬜ B) ⬜ C) ⬜ D) ⬜<br><br>Answer: _____ |
| **17** | Which one of the following is the **smallest volume**?<br><br>A) 600 *ml*<br><br>B) 1.2 *l*<br><br>C) 0.8 *l*<br><br>D) half a litre<br><br>Answer: _____ |
| **18** | Work out: **34.2 ÷ 10**<br><br>Answer: _____ |
| **19** | Which of the following is the **smallest prime** number?<br><br>A) 1<br>B) 2<br>C) 3<br>D) 4<br><br>Answer: _____ |
| **20** | A square envelope has sides of length **15 cm**. Does a rectangular paper, of sides **133 mm** by **149 mm**, fit into it?<br><br>Answer: Yes ☐      No ☐ |
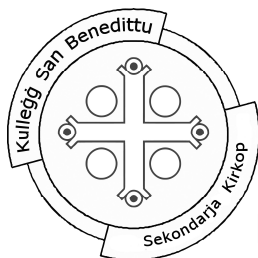
# KULLEĠĠ SAN BENEDITTU
# Secondary School, Kirkop

**Mark**

## HALF YEARLY EXAMINATION – 2014/2015

**Track 1**

**FORM 4**          **MATHEMATICS Track 1**          **TIME: 1hr 40 mins**

NAME: _____  INDEX NO. _____  Class: _____

## Main Paper

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Main | NC | Global Mark |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max. Mark | 5 | 5 | 3 | 5 | 5 | 5 | 9 | 8 | 8 | 9 | 7 | 11 | 80 | 20 | 100 |
| Mark | | | | | | | | | | | | | | | |

### DO NOT WRITE ABOVE THIS LINE

**INSTRUCTIONS TO CANDIDATES:**

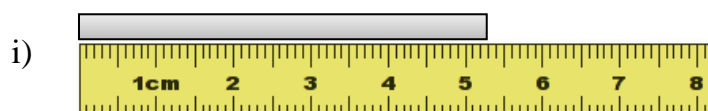**Read all the questions carefully before you start answering.**

- Answer all questions.
- This paper carries 80 marks.
- Calculators and mathematical instruments are allowed but all necessary working must be shown.

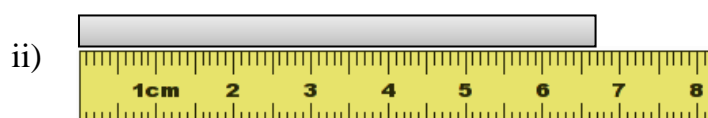1.  a)  Write in **order,** starting from the smallest.

### 2.45,  24.5,  0.245,  0.254,  2.54

Ans _____

b)  Write the following measurements:

i)



Ans _____cm

ii)



Ans _____cm

2.  Round:

      a)  27.87 to the **nearest whole number**    Ans _____

      b)  568 to the **nearest ten**    Ans _____

      c)  4326 to the **nearest hundred**    Ans _____

      d)  0.0648 to **two decimal places**    Ans _____

      e)  326.258 to **one significant figure**    Ans _____

(5 marks)

3.  Use your **calculator** to work out:

    a)  $24 \times (8.4 + 1.6)$    Ans _____

    b)  $\dfrac{3.6 + 4.4}{4}$    Ans _____

    c)  $\dfrac{3.6}{4} + 4.4$    Ans _____

(3 marks)

4.  Fill in using the following numbers. Numbers can only be used **once**.

$$6, \quad 7, \quad 8, \quad 9, \quad 10$$

    a)  _____ is a **prime** number.

    b)  _____ is a **factor of 20**.

    c)  _____ is a **multiple** of 4.

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

    e)  _____ is a **common multiple** of 2 and 3.

5. Work out the size of the lettered angles.

$a =$ _____ °

$b =$ _____ °
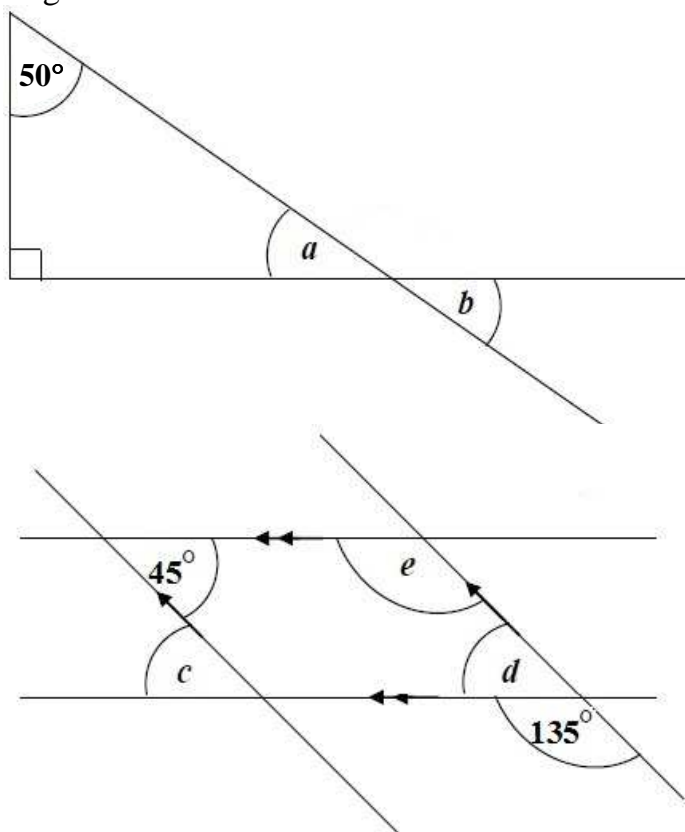
50°

$a$

$b$

$c =$ _____ °

$d =$ _____ °

$e =$ _____ °

$45°$

$e$

$c$

$d$

$135°$

(5 marks)

6. a) Write down and simplify an **expression for the perimeter** of this rectangle.

$x + 3$

$4x$

$4x$

$x + 3$
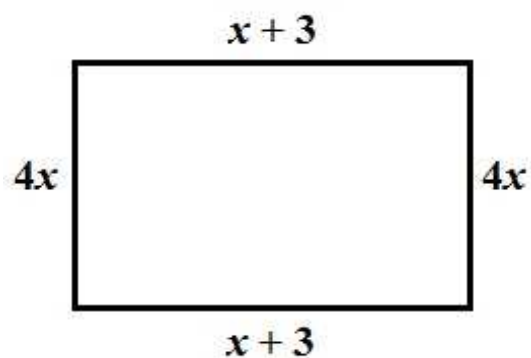
Ans  Perimeter =_____

b) Work out the **perimeter** of the rectangle when $x = 2$.

Ans _____cm

7. For each house in Valletta Road, the postman counts the number of letters delivered in a week. These are as follows:
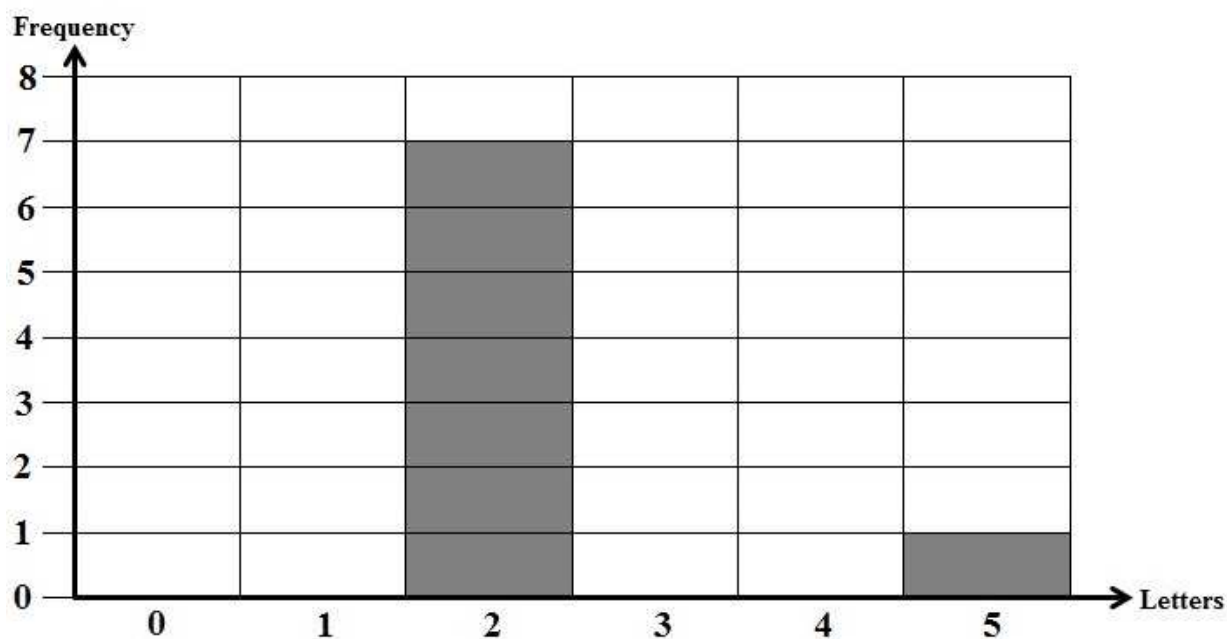
$$0 \quad 3 \quad 2 \quad 5 \quad 1 \quad 1 \quad 1 \quad 1 \quad 4 \quad 2 \quad 3$$

$$2 \quad 2 \quad 2 \quad 4 \quad 1 \quad 3 \quad 2 \quad 2 \quad 4 \quad 1 \quad 0$$

a) Continue this **frequency table**.

| Letters | Tally | Frequency |
|---------|-------|-----------|
| 0 | | |
| 1 | | |
| 2 | ||||| || | 7 |
| 3 | | |
| 4 | | |
| 5 | | | 1 |
| **Total** | | |

b) Continue this **bar chart** to show the above information.

8. **Formula-One Taxi** company calculates the cost of a trip using this formula:

   $$\boxed{\textbf{Cost in } \textit{Euro} = \textbf{5} + (\textbf{2} \times \textbf{length of trip in } \textit{kilometres})}$$

   a) Calculate the cost of a 6 km trip using **Formula-One Taxi** company.

   Ans €_____

   **Turtle-Two Taxi** company calculates the cost of a trip using this formula:

   $$\boxed{\textbf{Cost in } \textit{Euro} = \textbf{3} \times \textbf{length of trip in } \textit{kilometres}}$$

   b) Calculate the cost of a 6 km trip using **Turtle-Two Taxi** company.

   Ans €_____

   c) Which is the **cheaper** taxi company for a 6 km trip, and by how much?

   Ans _____ is cheaper by €_____

   (8 marks)

9. a) Fill in:

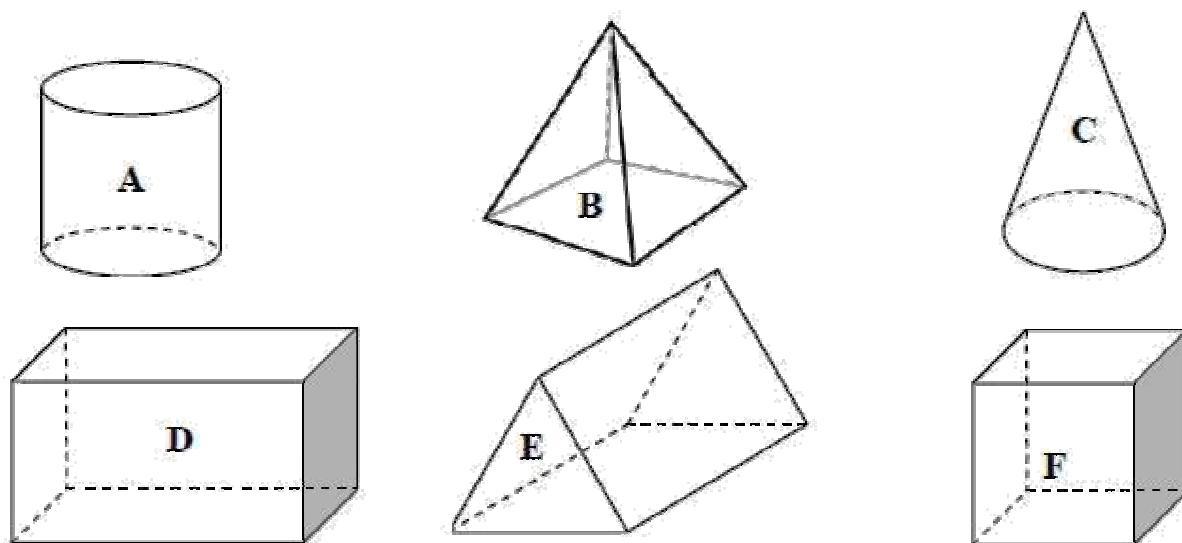   i)   6.25 m = _____ cm          (ii) 6 $l$ = _____ ml

   b) A book has a mass of 200 g. The mass of an empty box is 400 g.
      What is the **total mass in kg** of a box containing 6 books?
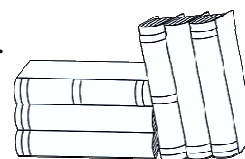
   Ans _____ kg

   c) The box containing the 6 books was placed on a shelf which can hold a
      **maximum of 2 kg.** How many more books can be added?

10.



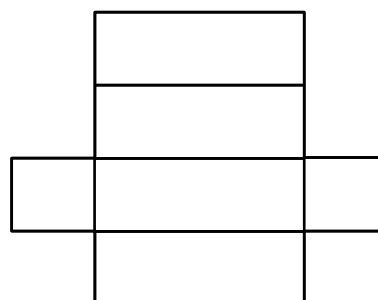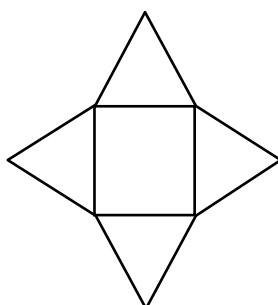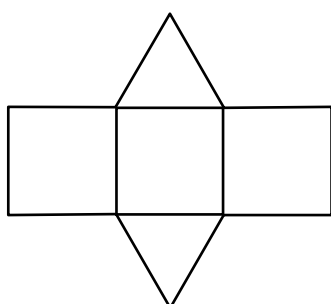a) Which of the above shapes are **prisms?** *(Circle more than one)*

b) Draw:

|  |  |
| --- | --- |
| i) the **uniform cross-section** of shape A | ii) the **uniform cross-section** of shape E |

c) Under each of these nets, write the name of its corresponding shape. Choose from:
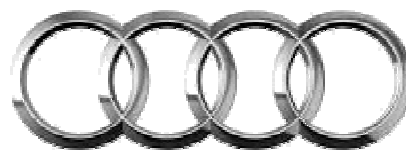
**Cuboid    Prism    Pyramid**

_____        _____        _____

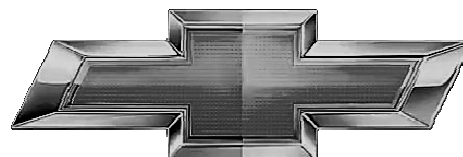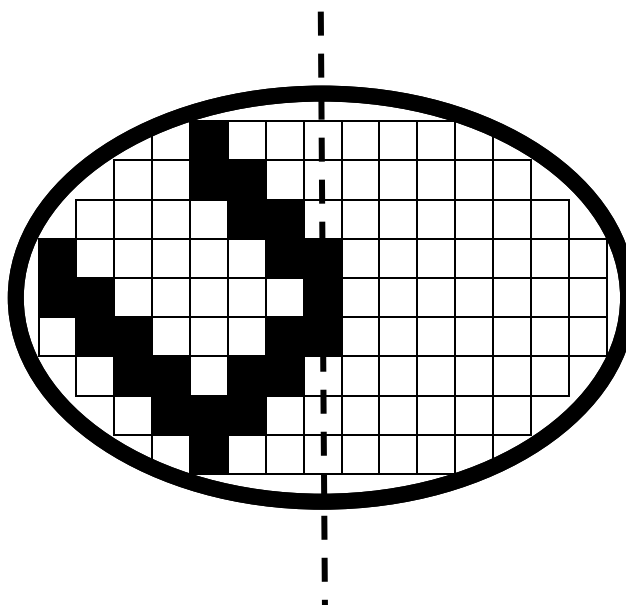11. a)  Draw the **lines of symmetry** of the following car logos.

i)

ii)

b)  Fill in:

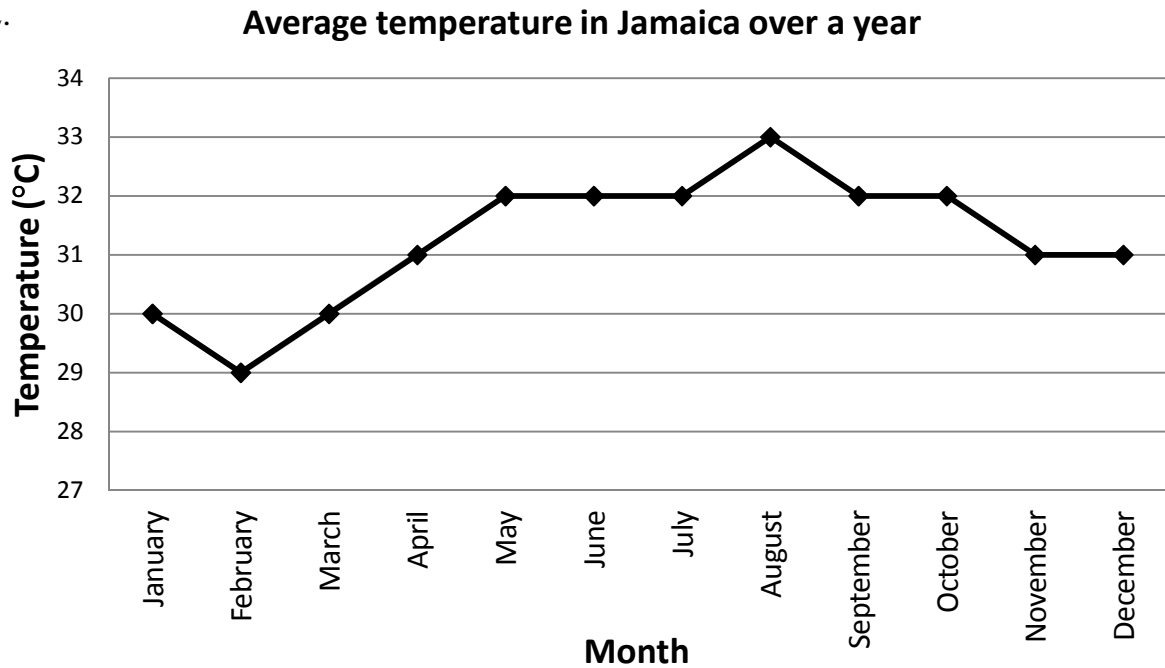i)  This shape has a **rotational symmetry** of order _____.

ii)  This shape has a **rotational symmetry** of order _____.

c)  Complete this diagram so that the **dotted line is a line of symmetry**.

12.

**Average temperature in Jamaica over a year**



a) Use the above line graph to **complete** the following table.

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 30 | 29 | | | | 32 | 32 | 33 | 32 | 32 | | 31 |

b) In how many months was the temperature **higher than 31°C**?  _____months

c) What is the **mode** for these temperatures?  _____°C

d) Which month had the **highest** temperature?  _____

e) Which month was the **coldest**?  _____

f) What is the **range** of these temperatures?

_____°C

g) Work out the **mean** temperature of Jamaica for all the 12 months?
Show your working and give your answer correct to 1 decimal place.

_____°C

h) If you had to go to Jamaica, which month would you choose? Explain your
answer by referring to the above graph.

_____

(11 marks)