Grade 8 Mathematics November 2017
Paper 2

Duration: 1 Hour Marks: 50

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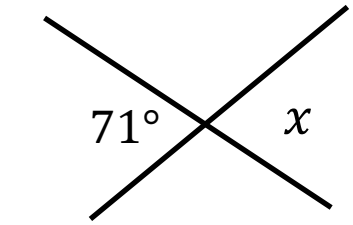
## Instructions:

1. Write your name and grade (e.g. 8E) as well as the name of your **SUBJECT TEACHER** at the top of your answer script.
2. This paper consists of 4 Pages.
3. This paper consists of **5 Questions**. Answer ALL the questions.
4. Calculators may **NOT** be used.
5. Number your questions correctly according to the numbering system used in this question paper.
6. It is in your own interest to write LEGIBLY and to present your work neatly.

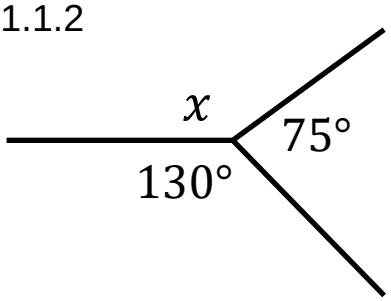
## Question 1:

1.1 Find the size of each of the angles marked *x* in the diagrams below. Give reasons for your answer.

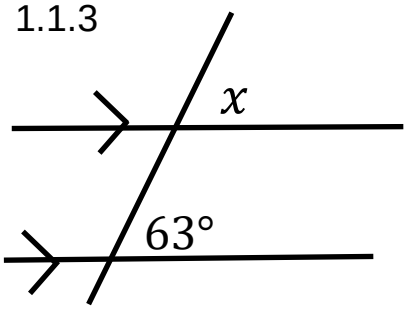
1.1.1



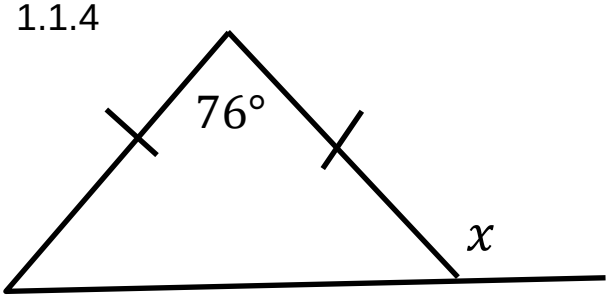

1.1.2



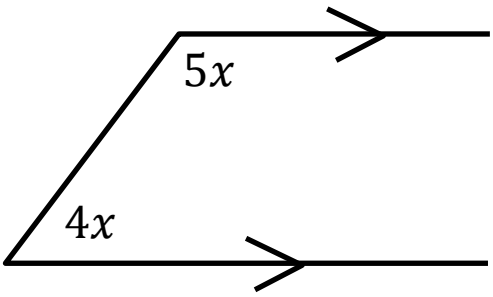

1.1.3




1.1.4

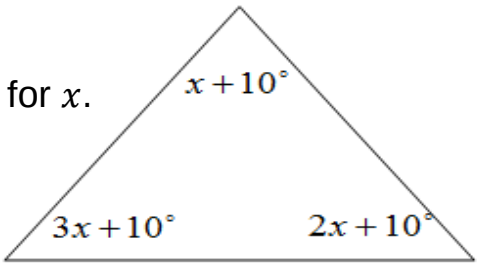



1.1.5




(11)

1.2 In the figure, alongside, solve for $x$.

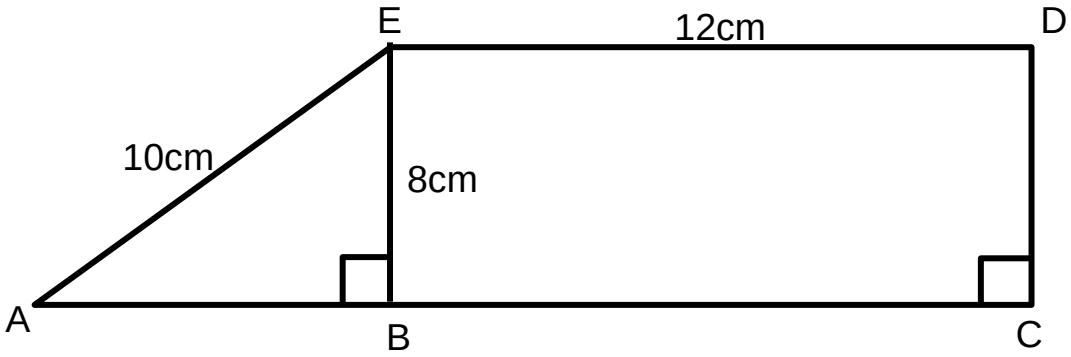



(3)

**[14]**

## Question 2

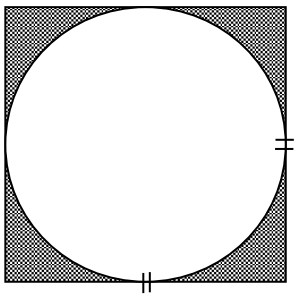
2.1 ACDE is a trapezium with EB ⊥ AC. EB = 8cm and AE = 10cm.




2.1.1 Determine the length of AB. (2)

2.1.2 Calculate the area of the figure ABCDE (3)

2.2 Study the figure below and answer the questions that follow.

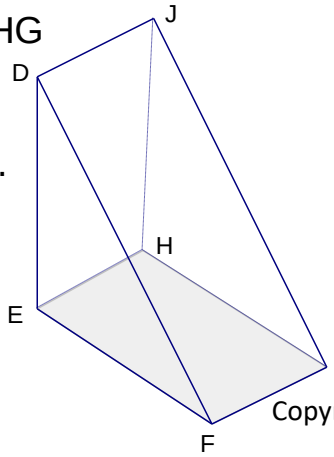


$21cm$

2.2.1 Calculate the circumference of the circle. (2)

2.2.2 Calculate the area of the shaded region, (3)

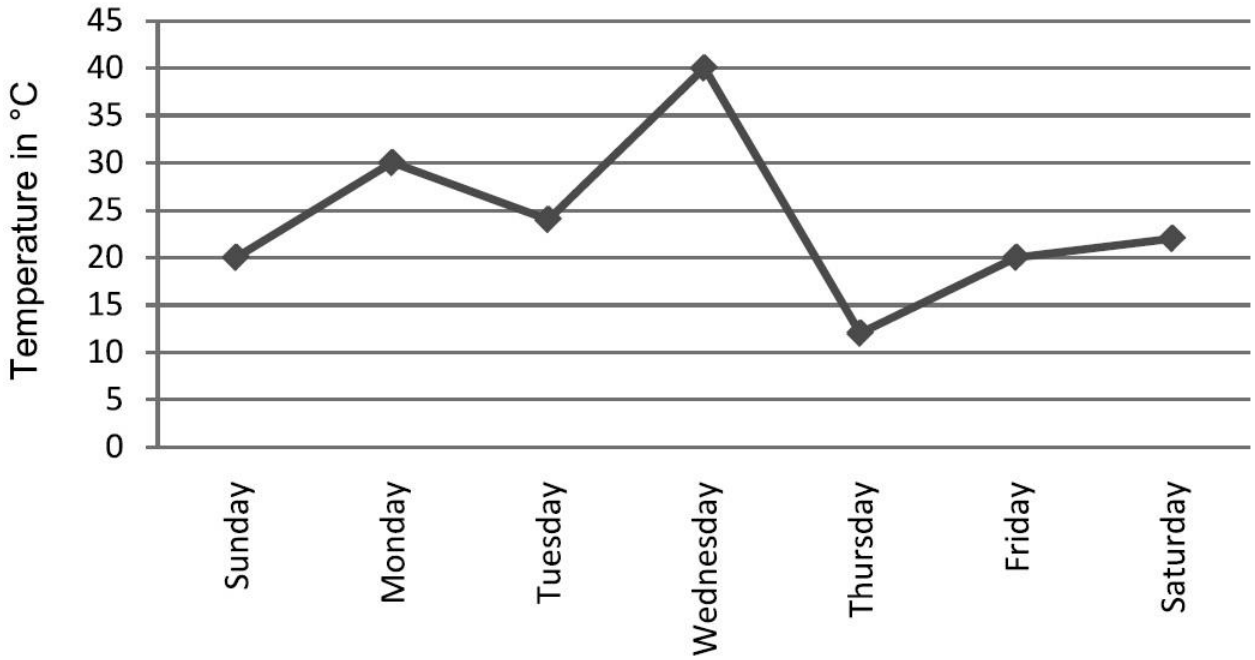
2.3 In the figure alongside, ΔDEF and ΔJHG are right angled triangles. $DE = 6cm$, $DF = 10cm, DE = 8cm\ and\ FG = 3cm$. Calculate the Total surface area. (3)




**[13]**

## Question 3

The broken-line graph below represents the temperatures recorded in Johannesburg on 7 consecutive days.




3.1 Which day was the hottest? (1)

3.2 Which day was the coolest? (1)

3.3 What is the range of temperatures? (2)

3.4 What was the temperature on Friday? (1)

**[5]**

## Question 4

The ages of the members of a church choir are given below:

| | | | |
|---|---|---|---|
| 12 | 10 | 12 | 15 |
| 11 | 12 | 13 | 13 |
| 18 | 11 | 17 | 12 |

4.1 What is the range of ages in the choir? (2)

4.2 What is the modal age? (1)

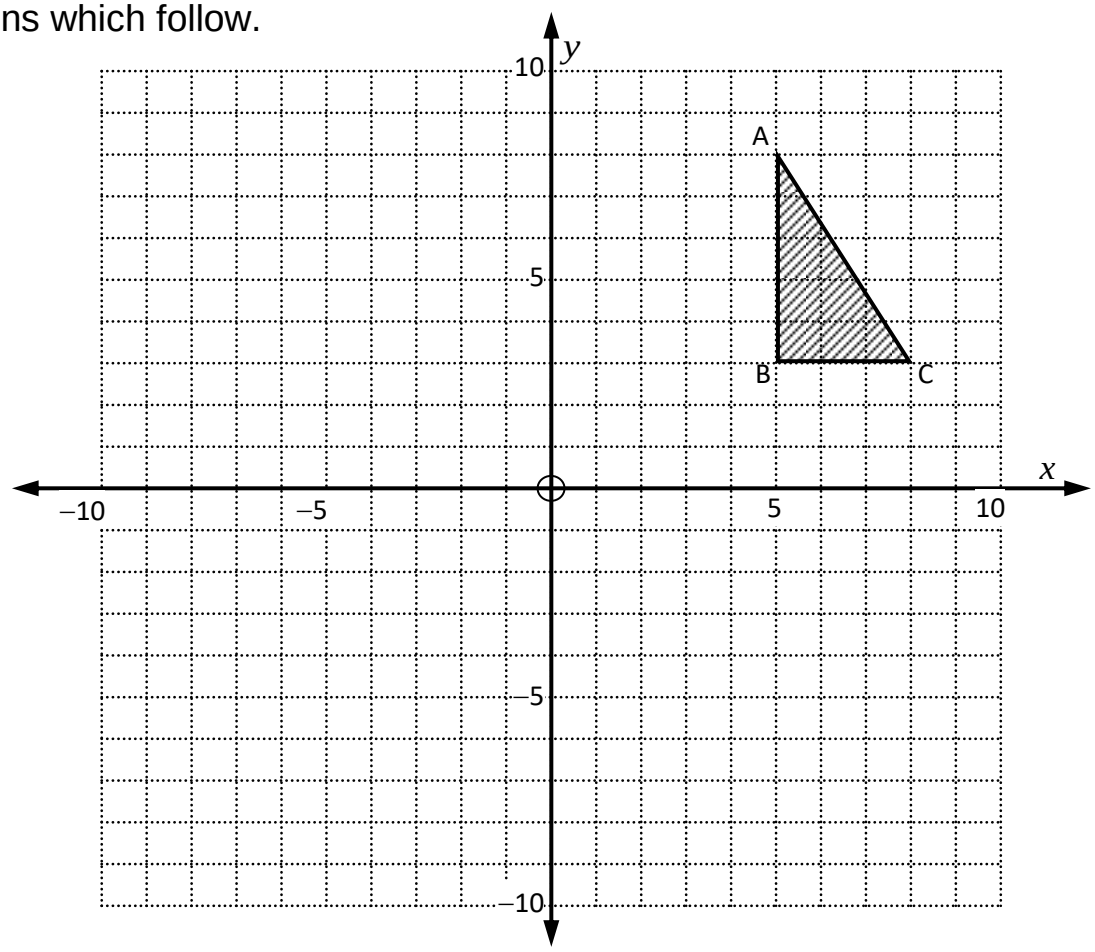
4.3 Calculate the mean. (3)

4.4 Calculate the median age. (3)

**[9]**

## Question 5

The diagram below shows $\triangle$ABC drawn in a Cartesian plane. Each block represents one square unit. Refer to the diagram as you answer the questions which follow.




5.1 Write down the co-ordinates of points A, B and C, the vertices (corners) of $\triangle$ABC. (3)

5.2 Write down the co-ordinates of point A', using the rule:

$(x; y) \rightarrow (x - 4; y + 2)$ to create the image A'. (2)

5.3 Consider translating point B, 5 units down and 3 units to the right to create the image B'. Write down the co-ordinates of point B'. (2)

5.4 Consider translating point C, 8 units to the left and 3 units down to create the image C'. Write down the co-ordinates of point C'. (2)

**[9]**