Candidate surname

Other names

Centre Number

Candidate Number

Mathematics

FOR FULL VIDEO SOLUTIONS
SCAN THE QR CODE
youtube.com/@hannahkettlemaths

Hannah Kettle MATHS TUTORIALS

Foundation Tier

Predicted Paper 3F – 10th June 2024

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may be used where indicated, but not otherwise.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

For more @hannahkettlemaths GCSE Revision Content:

@hannahkettlemaths
YouTube

@hannahkettlemaths
TikTok

@hannahkettlemaths
Website

Download Weekly
Revision Papers and
more Content

1 Write down the value of the 3 in the number 2315

....

(Total for Question 1 is 1 mark)

2 Write 0.4 as a fraction.
Give your answer in its simplest form.

....

(Total for Question 2 is 2 marks)

3 Round 34.785 to 2 decimal places

....

(Total for Question 3 is 1 mark)

4 Work out $\frac{2}{7}$ of 28

....

(Total for Question 4 is 1 mark)

5 Solve $x - 7 = 3$

....

(Total for Question 5 is 1 mark)

6 Here is a list of numbers.

                10   11   12   13   14   15   16
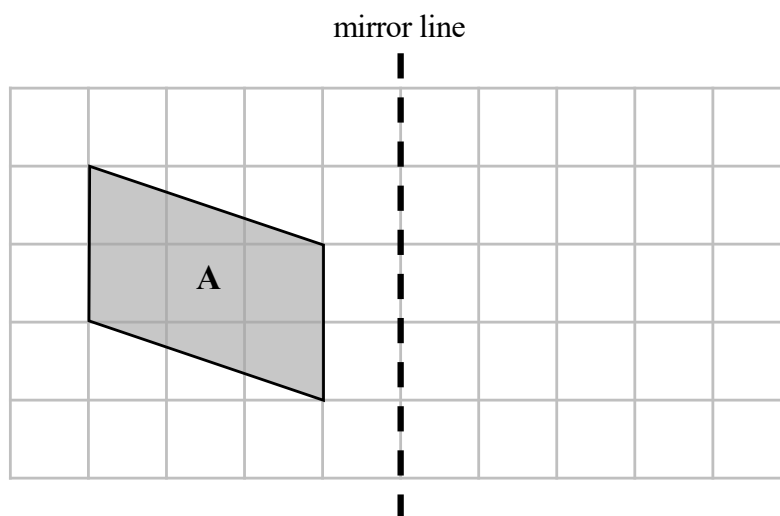
From the list, write down

(a) a factor of 20

....
(1)

(b) a prime number

....
(1)

(c) a square number

....
(1)

(Total for Question 6 is 3 marks)

7

mirror line

(a) Write down the mathematical name of quadrilateral **A**

....
(1)

(b) Reflect Shape **A** in the mirror line

(2)

(Total for Question 7 is 3 marks)

8 (a) Simplify $3a - a + 2a$
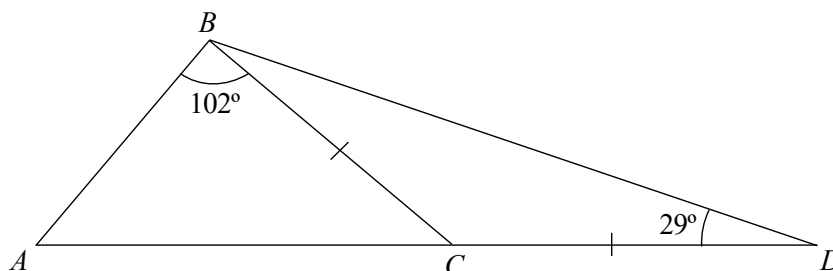
(b) Simplify $5p^2 + 3p^2$

....

(1)

(c) Simplify $12 - 5c + 2b + 3c - b$

....

(2)

(Total for Question 8 is 4 marks)

9

ACD is a straight line

Work out the size of angle *BAC*
Give a reason for each stage of your working

....º

(Total for Question 9 is 4 marks)

10 There are only red and blue counters in a bag.
The number of red counters to blue counters are in the ratio 2:3.

Work out what percentage of counters in the bag are red.

.... %

(Total for Question 10 is 2 marks)

11 Here is a list of ingredients for making 12 scones.

> **Ingredients for 12 scones**
>
> 450g self-raising flour
>
> 110g butter
>
> 240g cheese
>
> 200ml milk

Henry wants to make 30 scones.

Work out how much of each of the ingredients he needs.

self-raising flour ....g

butter ....g

cheese ....g

milk ....ml

(Total for Question 11 is 3 marks)

12 Work out 35% of 80

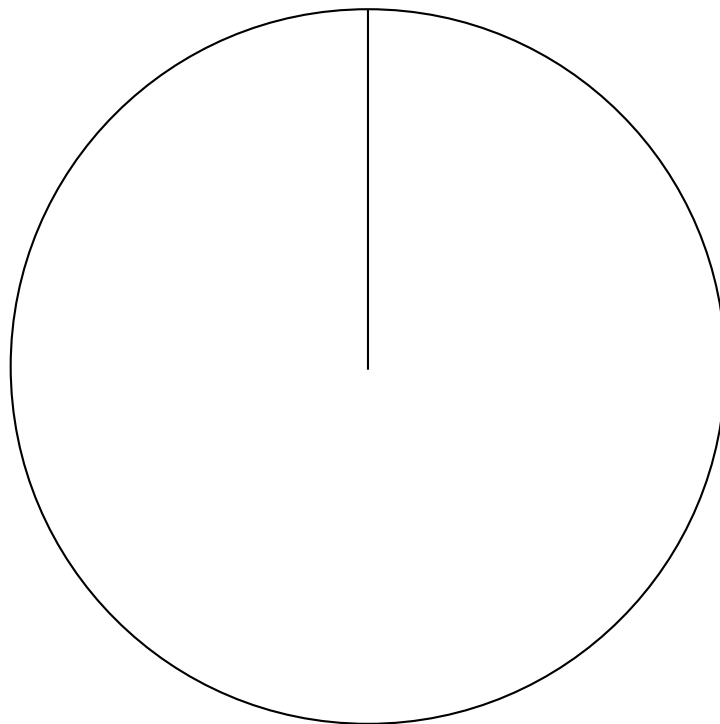..

(Total for Question 12 is 2 marks)

13 Fin asked each of her friends to name their favourite hobby.

The table below shows information about their answers.

Hobby	Frequency
Knitting	12
Cycling	8
Swimming	11
Drawing	5

Draw an accurate pie chart for this information.

(Total for Question 13 is 3 marks)

14 Anna is 5 years older than Beryl.
Beryl is double the age of Callum.

The total of Anna, Beryl and Callum's ages is 70 years.
(a) How old is Anna?

....
(3)

(b) What is the range of Anna, Beryl and Callum's ages?

....
(1)

(Total for Question 14 is 4 marks)

15 Liz is working in a shoe shop.
She arrives to work at 8:45am.
She spends 4 hours and 30 minutes helping customers on the shop floor.
She then gets a 45 minute break for lunch.
After her lunch, she then spends the rest of her shift tidying the stock room until she leaves at 3:15pm.

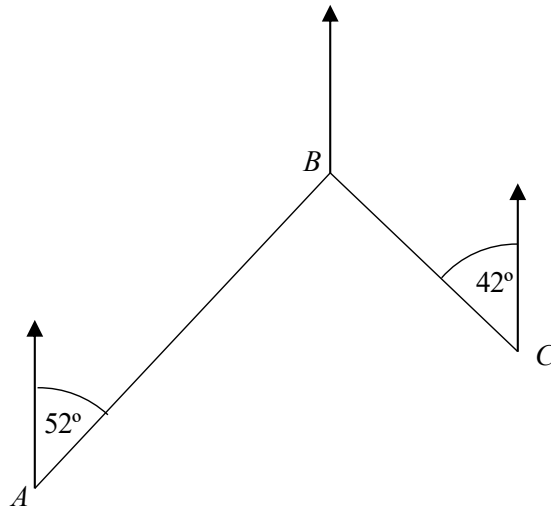How long does she spend tidying the stock room?
Give your answer in minutes.

....minutes
(Total for Question 15 is 3 marks)

16 The diagram shows the positions of three points, A, B and C on a map.

B

42°

C

52°

A

The scale of the map is 1 cm represents 4.5 km.

(a) On the map, the distance from A to C is 7 cm.
    Work out the real distance from A to C.

....

(b) Work out the bearing of B from C

(2)

o

....

(1)

(Total for Question 16 is 4 marks)

17 A café sells tea or coffee. The prices are given below.

Drink	Cost
Tea	£2.30
Coffee	£3.25

A group of students buy 5 cups of tea, and some cups of coffee.
The total cost for the drinks is £37.50.
Work out the number of cups of coffee the students bought.

....

(Total for Question 17 is 3 marks)

18 There are only pink cubes, grey cubes and white cubes in a box.

The table shows the probability of taking at random a pink cube from the box.

Colour	pink	grey	white
Probability	0.35		

The number of white cubes in the box is four times the number of grey cubes.

Complete the table.

(Total for Question 18 is 3 marks)

19 Here are the first four terms of a sequence.

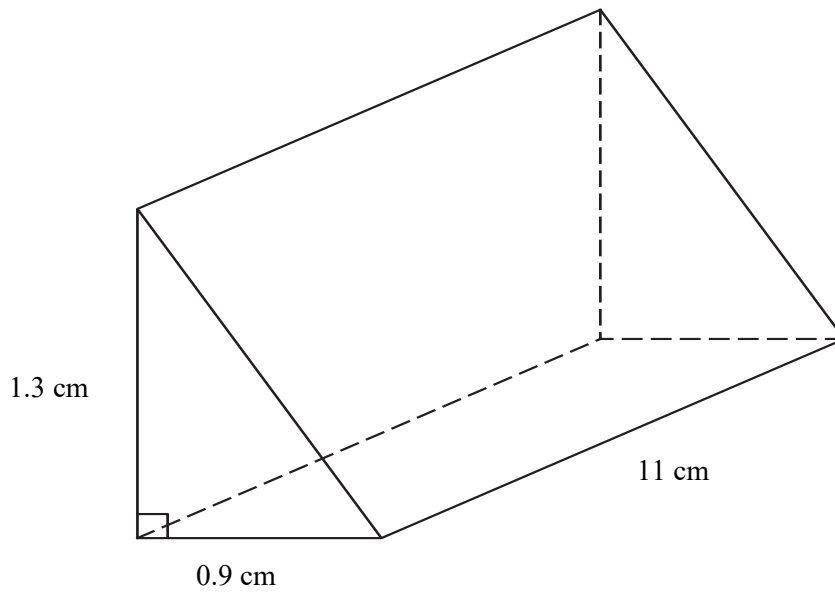<p align="center">2 3 8 63</p>

The rule to continue this sequence is

<p align="center">square the previous term and then subtract 1</p>

Work out the 5th term of the sequence

(Total for Question 19 is 2 marks)

20 Here is a triangular prism.

1.3 cm

11 cm

0.9 cm

Work out the volume of the prism.
Give your answer correct to 3 significant figures.

.... cm²

(Total for Question 20 is 4 marks)

21 A number, h, is rounded to 1 decimal place.

The result is 2.1
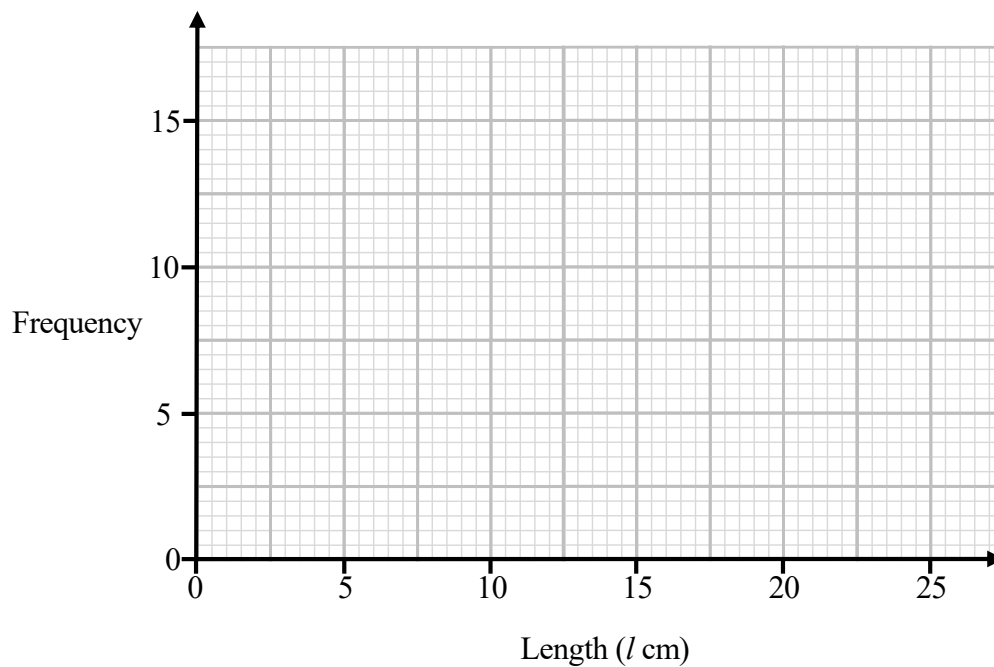Write down the error interval for h.

.... $\leq h <$ ....

(Total for Question 21 is 2 marks)

22 The frequency table gives information about the length of 45 fish.

Length (*l* cm)	Frequency
$0 < l \leq 5$	3
$5 < l \leq 10$	9
$10 < l \leq 15$	12
$15 < l \leq 20$	15
$20 < l \leq 25$	6

On the grid, draw a frequency polygon for the information in the table.

Frequency

Length (*l* cm)

(Total for Question 22 is 2 marks)

23 (a) Write 534000 in standard form.

....

(b) Write 9.8×10^{-7} as an ordinary number.
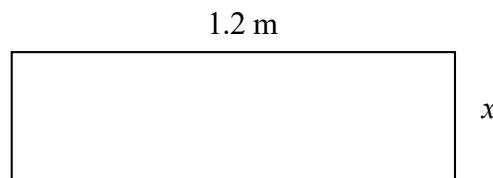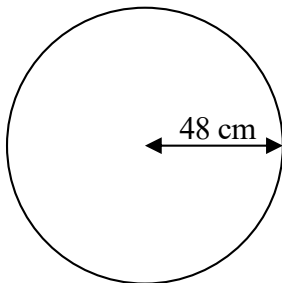
....
(1)

(c) Work out the value of $(3.08 \times 10^{-3}) \times (1.92 \times 10^{6})$
Give your answer in standard form correct to 3 significant figures.

....
(2)

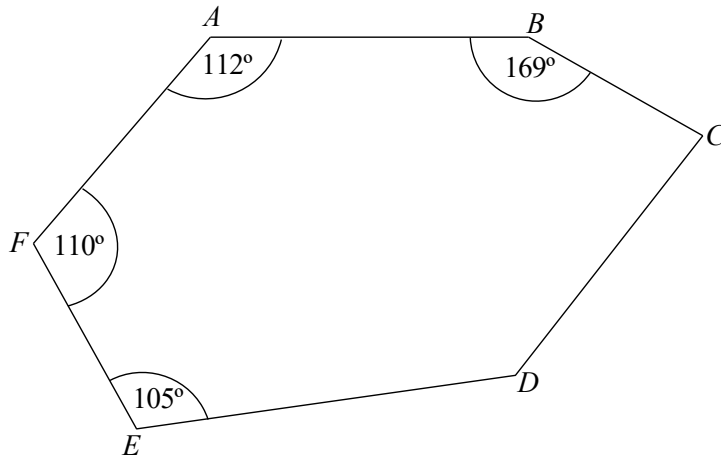**(Total for Question 23 is 4 marks)**

24 Shown below are a circle and a rectangle.

1.2 m

48 cm

x

The circumference of the circle is equal to the perimeter of the rectangle.
Calculate the value of x.
Give your answer to 1 decimal place.

....cm

(Total for Question 24 is 2 marks)

25 The probability tree diagram shows the probabilities that it will rain on Monday and Tuesday.

Monday   Tuesday

                                          0.2   rain

                         rain

          0.34   0.8   not rain

                                          0.2   rain

          0.66
                        not rain

                                          0.8   not rain

Calculate the probability that it will rain on at least one of these two days.

....

(Total for Question 25 is 3 marks)

26 *ABCDEF* is a hexagon

Angle *CDE* is 3 × Angle *BCD*

Work out the size of angle *CDE*
You must show all your working.

o

....

(Total for Question 26 is 3 marks)

27 There are 12 pencils in a packet.

Caleb has 5 packets of pencils. He also has 6 extra pencils.

Write the number of pencils in one packet to the total number of pencils Caleb has.

Give your answer in the form 1 : *n*

....

(Total for Question 27 is 2 marks)

28 Hamish cooked 20 cakes. The total cost of making the cakes was £20.45

Hamish sold the 20 cakes for £3.50 each

Calculate the percentage profit Hamish made on the cakes

....%

(Total for Question 28 is 3 marks)

---

29 (a) Expand and simplify $(3x + 2)(x - 2)$

....

(2)

(b) Factorise $x^2 + 10x + 25$

....

(1)

(c) Factorise fully $10x^2y + 25xy^3$

....

(2)

(Total for Question 29 is 5 marks)

30
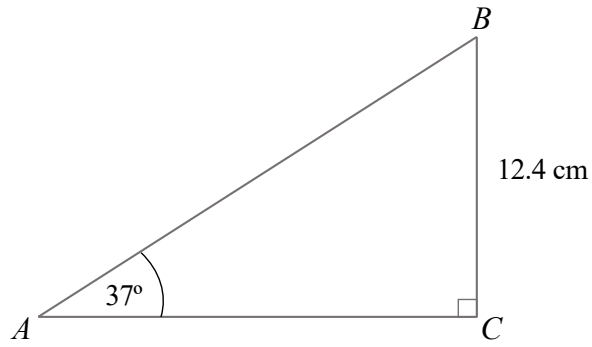
Work out the length of *AB*.

Give your answer correct to 1 decimal place.

....cm

(Total for Question 27 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS