

## EDEXCEL GCSE (9-1) EXAM PRACTICE WORKBOOK

# Grade 3 Mathematics — Practice Questions

(Foundation Tier)

Topic Exam Practice, Two Mixed Review Papers & Answer Key

- 126 Topic Practice Questions (21 topics × 6 questions)
- Clear **Calculator** & **Non-Calculator** tags on every question
- Two **Mixed Review Papers** (28 interleaved questions)
- Complete Answer Key & Mark Scheme Appendix

Student Name: \_\_\_\_\_

Class / Teacher: \_\_\_\_\_

Target Grade: \_\_\_\_\_



SCAN FOR ONLINE PRACTICE & WORKED SOLUTIONS

**BreakingDownMaths.com**

Interactive Step-by-Step GCSE Mathematics Mastery

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Comprehensive syllabus overview of all exam practice question sets and answer keys included in this workbook.

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## RATIO, PROPORTION AND RATES OF CHANGE

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## PROBABILITY

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## MIXED EXAM REVIEW (PICK THE RIGHT METHOD)

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## NUMBER • APPROXIMATION &amp; BOUNDS

## TOPIC 1: Estimation

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 12 marks

## Estimation — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(2 marks)

Work out an estimate for the value of  $\frac{35.3 \times 38.7}{0.54}$

WORKING OUT SPACE

Answer: .....

Question 2 NON-CALCULATOR

(2 marks)

Work out an estimate for the value of  $\frac{31.2 + \sqrt{36.1}}{0.22}$

WORKING OUT SPACE

Answer: .....

Question 3 NON-CALCULATOR

(2 marks)

Elena drives 40.5 miles each week. There are 52 weeks in a year.  
Work out an estimate for how many miles she drives in a year.

WORKING OUT SPACE

Answer: .....

**Question 4** NON-CALCULATOR**(2 marks)**

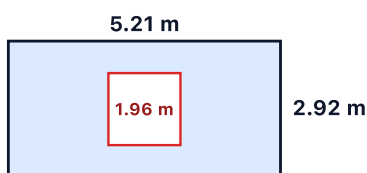
Mrs Patel buys a sketchbook for each of the 97 students in Year 10. Each sketchbook costs £5.99.  
Work out an estimate for the total cost.

WORKING OUT SPACE

Answer: .....

**Question 5** NON-CALCULATOR**(2 marks)**

A square is cut out of a rectangle.



Estimate the shaded area left over.

WORKING OUT SPACE

Answer: .....

**Question 6** NON-CALCULATOR**(2 marks)**

John and Leo use a calculator to work out

$$\frac{417.3}{12.2 + 4.1^2}$$

John's answer is 15

Leo's answer is 1.5

One of those answers is correct.

Use approximations to find out which answer is correct.

WORKING OUT SPACE

Answer: .....

## NUMBER • APPROXIMATION &amp; BOUNDS

## TOPIC 2: Limits of Accuracy

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 10 marks

## Limits of Accuracy — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(1 mark)

The capacity of a bottle is 116 ml, correct to the nearest ml.

Write down the **largest** possible capacity.

WORKING OUT SPACE

Answer: .....

Question 2 NON-CALCULATOR

(1 mark)

The height of a building is 90 metres, correct to the nearest metre.

Write down the **smallest** possible height.

WORKING OUT SPACE

Answer: .....

Question 3 NON-CALCULATOR

(2 marks)

A number  $w$  is rounded to 1 decimal place.

The result is 18.6.

Write down the error interval for  $w$ .

WORKING OUT SPACE

Answer: .....

**Question 4** NON-CALCULATOR**(2 marks)**

A number  $x$  is rounded to 2 decimal places.  
The result is 1.65.

Write down the error interval for  $x$ .

WORKING OUT SPACE

**Answer:** .....**Question 5** NON-CALCULATOR**(2 marks)**

A number  $p$  is rounded to 1 significant figure.  
The result is 700.

Write down the error interval for  $p$ .

WORKING OUT SPACE

**Answer:** .....**Question 6** NON-CALCULATOR**(2 marks)**

A number  $x$  is **truncated** to 2 decimal places.  
The result is 2.23.

Write down the error interval for  $x$ .

WORKING OUT SPACE

**Answer:** .....

## NUMBER • FRACTIONS &amp; DECIMALS

## TOPIC 3: Fractions (+/-)

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 12 marks

## Fractions (+/-) — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 ☒ NON-CALCULATOR

(2 marks)

Calculate:  $\frac{2}{3} + \frac{1}{4}$

Give your answer in its simplest form.

WORKING OUT SPACE

Answer: .....

Question 2 ☒ NON-CALCULATOR

(2 marks)

Calculate:  $\frac{2}{3} - \frac{2}{7}$

Give your answer in its simplest form.

WORKING OUT SPACE

Answer: .....

Question 3 ☒ NON-CALCULATOR

(1 mark)

Convert the top-heavy (improper) fraction to a mixed number:  $\frac{41}{8}$

WORKING OUT SPACE

Answer: .....

**Question 4****NON-CALCULATOR****(1 mark)**

Convert the mixed number to a top-heavy (improper) fraction:  $6\frac{4}{7}$

WORKING OUT SPACE

**Answer:** .....**Question 5****NON-CALCULATOR****(3 marks)**

Calculate:  $5\frac{1}{3} + 2\frac{3}{4}$

Give your answer as a mixed number in its simplest form.

WORKING OUT SPACE

**Answer:** .....**Question 6****NON-CALCULATOR****(3 marks)**

Calculate:  $4\frac{2}{9} - 1\frac{3}{8}$

Give your answer as a mixed number in its simplest form.

WORKING OUT SPACE

**Answer:** .....

## NUMBER • FRACTIONS &amp; DECIMALS

## TOPIC 4: Fractions (x/÷)

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 14 marks

## Fractions (x/÷) — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 ☒ NON-CALCULATOR

(2 marks)

Calculate:  $\frac{3}{4} \times \frac{2}{3}$

Give your answer in its simplest form.

WORKING OUT SPACE

Answer: .....

Question 2 ☒ NON-CALCULATOR

(3 marks)

Calculate:  $2\frac{1}{4} \times 3\frac{1}{3}$

Give your answer as a mixed number in its simplest form.

WORKING OUT SPACE

Answer: .....

Question 3 ☒ NON-CALCULATOR

(2 marks)

Calculate:  $\frac{1}{2} \div \frac{3}{5}$

Give your answer in its simplest form.

WORKING OUT SPACE

Answer: .....

**Question 4****NON-CALCULATOR****(3 marks)**Calculate:  $1\frac{2}{3} \div 3\frac{3}{4}$ 

Give your answer in its simplest form.

WORKING OUT SPACE

Answer: .....

**Question 5****NON-CALCULATOR****(2 marks)**Calculate:  $9 \div \frac{2}{3}$ 

Give your answer as a mixed number in its simplest form.

WORKING OUT SPACE

Answer: .....

**Question 6****NON-CALCULATOR****(2 marks)**Calculate:  $8 \times \frac{5}{7}$ 

Give your answer as a mixed number in its simplest form.

WORKING OUT SPACE

Answer: .....

## NUMBER • FRACTIONS &amp; DECIMALS

## TOPIC 5: Reciprocals

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 6 marks

## Reciprocals — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(1 mark)

What is the reciprocal of  $\frac{1}{4}$ ?

WORKING OUT SPACE

Answer: .....

Question 2 NON-CALCULATOR

(1 mark)

What is the reciprocal of 7?

WORKING OUT SPACE

Answer: .....

Question 3 NON-CALCULATOR

(1 mark)

What is the reciprocal of  $\frac{3}{4}$ ?

WORKING OUT SPACE

Answer: .....

**Question 4** ✎ NON-CALCULATOR**(1 mark)**

What is the reciprocal of  $\frac{5}{11}$ ?

WORKING OUT SPACE

**Answer:** .....**Question 5** ✎ NON-CALCULATOR**(1 mark)**

What is the reciprocal of 0.2?

WORKING OUT SPACE

**Answer:** .....**Question 6** ✎ NON-CALCULATOR**(1 mark)**

What is the reciprocal of 0.01?

WORKING OUT SPACE

**Answer:** .....

## NUMBER • PERCENTAGES

## TOPIC 6: Percentages of an Amount

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 6 marks

## Percentages of an Amount — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 ☒ NON-CALCULATOR

(1 mark)

Find 10% of 400.

WORKING OUT SPACE

Answer: .....

Question 2 ☒ NON-CALCULATOR

(1 mark)

Find 5% of 160.

WORKING OUT SPACE

Answer: .....

Question 3 ☒ NON-CALCULATOR

(1 mark)

Find 30% of 430.

WORKING OUT SPACE

Answer: .....

**Question 4** **NON-CALCULATOR****(1 mark)**

Find 75% of 160.

WORKING OUT SPACE

**Answer:** .....**Question 5** **NON-CALCULATOR****(1 mark)**

Find 28% of 170.

WORKING OUT SPACE

**Answer:** .....**Question 6** **CALCULATOR****(1 mark)**

Find 35% of 310.

WORKING OUT SPACE

**Answer:** .....

## NUMBER • PERCENTAGES

## TOPIC 7: Percentage Change

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 16 marks

## Percentage Change — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(2 marks)

A shop buys a bike for £200 and sells it for £350. What is their percentage profit?

WORKING OUT SPACE

Answer: .....

Question 2 NON-CALCULATOR

(2 marks)

A jacket originally cost £50 but is reduced to £30 in a sale. What is the percentage discount?

WORKING OUT SPACE

Answer: .....

Question 3 CALCULATOR

(3 marks)

Last year, a bill was £1965.

This year, the bill is £2114.

Work out the percentage increase.

Give your answer correct to 1 decimal place.

WORKING OUT SPACE

Answer: .....

**Question 4** **CALCULATOR****(3 marks)**

Last year, a bill was £1318.

This year, the bill is £1222.

Work out the percentage decrease.

Give your answer correct to 1 decimal place.

WORKING OUT SPACE

**Answer:** .....**Question 5** **CALCULATOR****(3 marks)**

Alan buys 2.6 kg of sweets.

He pays £4.78 for the sweets.

Alan puts the sweets into bags.

He puts 150g of sweets in each bag.

He fills as many full bags of sweets as possible.

He sells each bag of sweets for 37p.

Work out Alan's percentage profit.

Give your answer to 1 decimal place if needed.

WORKING OUT SPACE

**Answer:** .....

**Question 6** **CALCULATOR****(3 marks)**

Lottie buys a pack of 79 cans of lemonade.  
She pays £27 for the cans.

Lottie sells 49 of the cans for 60p each.  
She sells the remaining cans for 29p each.

Work out Lottie's percentage profit.  
Give your answer to 1 decimal place if needed.

WORKING OUT SPACE

**Answer:** .....

## NUMBER • PERCENTAGES

## TOPIC 8: Simple Interest

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 15 marks

## Simple Interest — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(2 marks)

Amira invests £750 in a savings scheme paying 4% simple interest per year.

How much **simple interest** does she earn in 5 years?

WORKING OUT SPACE

Answer: .....

Question 2 NON-CALCULATOR

(3 marks)

Sophie invests £3,500 at 5% simple interest per year for 3 years.

Work out the **total value** of her investment at the end of the 3 years.

WORKING OUT SPACE

Answer: .....

Question 3 CALCULATOR

(2 marks)

James takes out a loan of £4,000 at a simple interest rate of 4.5% per year for 2 years.

Calculate the **total interest** James pays on the loan.

WORKING OUT SPACE

Answer: .....

**Question 4** **CALCULATOR****(3 marks)**

Daniel deposits £1,600 into an account paying 3.5% simple interest each year.

Calculate the **total amount** in his account after 6 years.

WORKING OUT SPACE

**Answer:** .....**Question 5** **CALCULATOR****(3 marks)**

Chloe lends a friend £650 at a simple interest rate of 6% per year for 3 years.

Work out the **total amount** her friend must pay back.

WORKING OUT SPACE

**Answer:** .....**Question 6** **CALCULATOR****(2 marks)**

A business invests £10,000 into a green energy bond paying 2.8% simple interest per year for 5 years.

Calculate the **total interest** earned.

WORKING OUT SPACE

**Answer:** .....

RATIO, PROPORTION AND RATES OF CHANGE • RATIO

Target Grade 3

**TOPIC 9: Simplifying Ratios**

EDEXCEL GCSE EXAM PRACTICE

Total: 10 marks

**Simplifying Ratios — Practice Questions**

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

**Question 1** NON-CALCULATOR

(1 mark)

Simplify the ratio 21 : 36 fully.

WORKING OUT SPACE

Answer: .....

**Question 2** NON-CALCULATOR

(2 marks)

Simplify the ratio 21 : 12 : 30 fully.

WORKING OUT SPACE

Answer: .....

**Question 3** NON-CALCULATOR

(1 mark)

Write the ratio 4 : 5 in the form 1 :  $n$

WORKING OUT SPACE

Answer: .....

**Question 4** 🚫 NON-CALCULATOR**(2 marks)**

Simplify the ratio £5 : 250p fully.

WORKING OUT SPACE

**Answer:** .....**Question 5** 🚫 NON-CALCULATOR**(2 marks)**

Simplify the ratio 20g : 3kg fully.

WORKING OUT SPACE

**Answer:** .....**Question 6** 🚫 NON-CALCULATOR**(2 marks)**

There are four times as many blue pens as black pens.

There are twice as many blue pens as yellow pens.

Write down the ratio of blue pens to black pens to yellow pens.

WORKING OUT SPACE

**Answer:** .....

## RATIO, PROPORTION AND RATES OF CHANGE • RATIO

Target Grade 3

## TOPIC 10: Sharing in a Ratio

## EDEXCEL GCSE EXAM PRACTICE

Total: 12 marks

## Sharing in a Ratio — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(2 marks)

Mia and Liam share £220 in the ratio 4 : 7.

How much does Liam get?

WORKING OUT SPACE

Answer: .....

Question 2 NON-CALCULATOR

(2 marks)

Jack, Hannah and Uma share £180 in the ratio 5 : 6 : 7.

How much does Uma get?

WORKING OUT SPACE

Answer: .....

Question 3 NON-CALCULATOR

(2 marks)

Tom and Mia share some money in the ratio 7 : 5.

Mia gets £75.

How much did they share in total?

WORKING OUT SPACE

Answer: .....

**Question 4** ✎ NON-CALCULATOR**(2 marks)**

Grace and Noah share some money in the ratio 4 : 3.  
Grace gets £32.

How much does Noah get?

WORKING OUT SPACE

**Answer:** .....**Question 5** ✎ NON-CALCULATOR**(2 marks)**

Alice and Noah share some money in the ratio 2 : 3.  
Noah gets £6 more than Alice.

How much did Alice get?

WORKING OUT SPACE

**Answer:** .....**Question 6** ✎ NON-CALCULATOR**(2 marks)**

Rachel and Quinn share some money in the ratio 8 : 7.  
Rachel gets £4 more than Quinn.

How much did they share in total?

WORKING OUT SPACE

**Answer:** .....

## RATIO, PROPORTION AND RATES OF CHANGE • PROPORTION

## TOPIC 11: Recipes

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 14 marks

## Recipes — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1  NON-CALCULATOR

(2 marks)

Here is a recipe for 4 cakes.  
It requires 60g of sugar.

Work out the amount of sugar needed to make 10 cakes.

WORKING OUT SPACE

Answer: .....

Question 2  CALCULATOR

(2 marks)

Here is a recipe for 16 cakes.  
It requires 30g of oats.

Work out the amount of oats needed to make 20 cakes.

WORKING OUT SPACE

Answer: .....

**Question 3** 🚫 NON-CALCULATOR**(2 marks)**

A recipe makes 12 shortcakes.  
It uses 40ml of water.

Nadia makes some shortcakes.  
She uses 160ml of water.

How many shortcakes does Nadia make?

WORKING OUT SPACE

**Answer:** .....**Question 4** 🚫 NON-CALCULATOR**(3 marks)**

Imran has a recipe for 30 biscuits.

Flour: 50g  
Butter: 90g

Zara has:  
Flour: 75g  
Butter: 270g

Work out the greatest number of biscuits that Zara could bake.

WORKING OUT SPACE

**Answer:** .....

**Question 5** **NON-CALCULATOR****(3 marks)**

Recipe for 4 people:

Flour: 80g

Sugar: 60g

Talia wants to make it for 10 people.

She has in her cupboard:

Flour: 110g

Sugar: 129g

Work out how much MORE of each ingredient she needs to buy.

WORKING OUT SPACE

**Answer:** .....**Question 6** **NON-CALCULATOR****(2 marks)**

219g of flour are needed to make 12 cakes.

Clara wants to make 24 of these cakes.

She has 414g of flour.

Does Clara have enough flour to make 24 cakes?

WORKING OUT SPACE

**Answer:** .....

## RATIO, PROPORTION AND RATES OF CHANGE • PROPORTION

Target Grade 3

## TOPIC 12: Exchange Rates

## EDEXCEL GCSE EXAM PRACTICE

Total: 14 marks

## Exchange Rates — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1  CALCULATOR

(2 marks)

Ben changes £250 into Turkish Lira. The exchange rate is £1 = 41.95 Lira.  
Work out how many Lira Ben gets.

WORKING OUT SPACE

Answer: .....

Question 2  CALCULATOR

(2 marks)

Ben changed £240 into Dollars at an exchange rate of £1 = \$2.03.  
On holiday, Ben spent \$325.  
Back home, Ben changed the left-over Dollars back into pounds.  
The new exchange rate was £1 = \$2.09.

Work out how many pounds (£) Ben got back.  
Give your answer to the nearest penny.

WORKING OUT SPACE

Answer: .....

**Question 3**  **CALCULATOR****(2 marks)**

A camera costs €92 in France.

The same camera costs £87.99 in the UK.

The exchange rate is £1 = €1.15.

Work out the **difference** between the cost of the camera in France and in the UK.

Give your answer in pounds (£).

WORKING OUT SPACE

**Answer:** .....**Question 4**  **CALCULATOR****(2 marks)**

Amy changes £550 into Vietnamese dong.

She wants to get as many 500000 dong notes as possible.

The exchange rate is £1 = 26793 dong.

Work out the greatest number of 500000 dong notes that Amy can get.

WORKING OUT SPACE

**Answer:** .....**Question 5**  **CALCULATOR****(3 marks)**

In London, potatoes cost £0.43 per lb.

In Dublin, potatoes cost €1.80 per kilogram.

1 kg = 2.2 lbs

£1 = €1.22

In which city are potatoes better value for money, London or Dublin?

WORKING OUT SPACE

**Answer:** .....

**Question 6** **CALCULATOR****(3 marks)**

Marcus wants to book flights which cost \$440 and a hotel which costs €71 per night for 6 nights.

The exchange rates are as follows:

£1 = €1.21

\$1 = €0.77

Marcus can spend no more than £656.

Work out if Marcus is able to book the flights and the hotel.

WORKING OUT SPACE

**Answer:** .....

## RATIO, PROPORTION AND RATES OF CHANGE • PROPORTION

Target Grade 3

## TOPIC 13: Best Buys

## EDEXCEL GCSE EXAM PRACTICE

Total: 18 marks

## Best Buys — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1  CALCULATOR

(3 marks)

Potatoes cost £7.32 for a 20 kg bag at a farm shop.

The same type of potatoes cost £1.29 for a 3 kg bag at a supermarket.

Where are the potatoes the better value, at the farm shop or at the supermarket?

WORKING OUT SPACE

Answer: .....

Question 2  CALCULATOR

(3 marks)

Two packs of cereal are available.

Pack A: 1000 grams for £5.04

Pack B: 400 grams for £1.64

Work out which pack offers the best value for money.

WORKING OUT SPACE

Answer: .....

**Question 3** **CALCULATOR****(3 marks)**

Three packs of dog food are available in the supermarket.

Pack A: 2.5 kg for £3.77

Pack B: 5 kg for £7.60

Pack C: 12 kg for £16.57

Which pack offers the best value for money?

WORKING OUT SPACE

**Answer:** .....**Question 4** **NON-CALCULATOR****(3 marks)**

Three packs of pasta are available in the supermarket.

Pack A: 250 grams for £0.49

Pack B: 500 grams for £0.91

Pack C: 1000 grams for £1.99

Which pack offers the best value for money?

WORKING OUT SPACE

**Answer:** .....**Question 5** **NON-CALCULATOR****(3 marks)**

Two packs of tea bags are available.

Pack A: 200 with 25% extra free for £4

Pack B: 200 with 15% off the normal price of £4

Which pack offers the best value for money?

WORKING OUT SPACE

**Answer:** .....

**Question 6** **CALCULATOR****(3 marks)**

Two packs of tea bags are available.

Pack A: 160 with 25% extra free for £3

Pack B: 160 with 25% off the normal price of £3

Which pack offers the best value for money?

WORKING OUT SPACE

**Answer:** .....

## RATIO, PROPORTION AND RATES OF CHANGE • SCALE &amp; CONVERSION

Target Grade 3

## TOPIC 14: Unit Conversions

## EDEXCEL GCSE EXAM PRACTICE

Total: 13 marks

## Unit Conversions — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(2 marks)

Change 20.53 kilograms to grams.

WORKING OUT SPACE

Answer: .....

Question 2 CALCULATOR

(2 marks)

Use the conversion: 5 miles  $\approx$  8 km.

Change 425 miles to km.

WORKING OUT SPACE

Answer: .....

Question 3 NON-CALCULATOR

(2 marks)

Write 500  $mm^2$  in  $cm^2$ .

WORKING OUT SPACE

Answer: .....

**Question 4** 🚫 NON-CALCULATOR**(2 marks)**Write  $2.5 \text{ m}^2$  in  $\text{cm}^2$ .

WORKING OUT SPACE

**Answer:** .....**Question 5** 🚫 NON-CALCULATOR**(3 marks)**

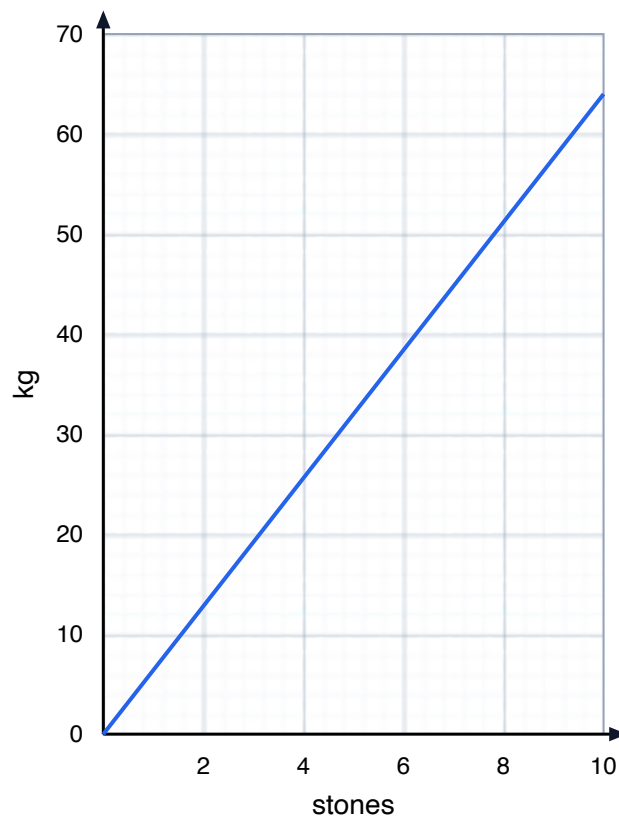
Write 36 kilometres per hour in metres per second.

WORKING OUT SPACE

**Answer:** .....

**Question 6** NON-CALCULATOR**(2 marks)**

You can use this graph to change between stones and kg.



Change 10 stones to kg.

WORKING OUT SPACE

**Answer:** .....

## RATIO, PROPORTION AND RATES OF CHANGE • SCALE &amp; CONVERSION

Target Grade 3

## TOPIC 15: Scale Drawings &amp; Maps

EDEXCEL GCSE EXAM PRACTICE

Total: 16 marks

## Scale Drawings &amp; Maps — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1  CALCULATOR

(2 marks)

A scale drawing shows a rectangular field of width 6 cm and length 13 cm.



The real length of the field is 195 m. Work out the **real perimeter** of the field.

WORKING OUT SPACE

Answer: .....

Question 2  NON-CALCULATOR

(2 marks)

An accurate scale drawing shows a minibus.

On the drawing, the minibus has a height of 4cm and a length of 12cm.

The minibus has a real height of 1.6 metres.

Find the real length, in metres, for the minibus.

WORKING OUT SPACE

Answer: .....

**Question 3** **CALCULATOR****(3 marks)**

A model car has a length of 20cm.  
The scale of the model is 1:48.

Work out the length of the real car.  
Give your answer in metres.

WORKING OUT SPACE

**Answer:** .....**Question 4** **NON-CALCULATOR****(3 marks)**

A model building has a length of 20cm.  
The scale of the model is 1:50.

Work out the length of the real building.  
Give your answer in metres.

WORKING OUT SPACE

**Answer:** .....**Question 5** **NON-CALCULATOR****(3 marks)**

A map has a scale of 1 : 25,000. Two towns are 5 cm apart on the map.



Work out the real distance between the two towns in **kilometres**.

WORKING OUT SPACE

**Answer:** .....

**Question 6****NON-CALCULATOR****(3 marks)**

A map has a scale of 1:50000.

The distance between two points on the map is 8 cm.

Work out the real distance between the two points.

Give your answer in kilometres.

WORKING OUT SPACE

**Answer:** .....

## GEOMETRY AND MEASURES • CIRCLES

## TOPIC 16: Area &amp; Circumference

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 15 marks

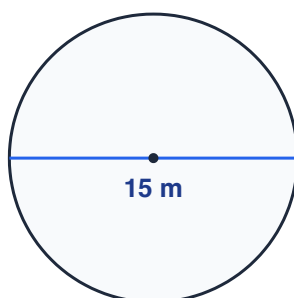
## Area &amp; Circumference — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 CALCULATOR

(2 marks)

The diagram shows a circle with a diameter of 15 m.



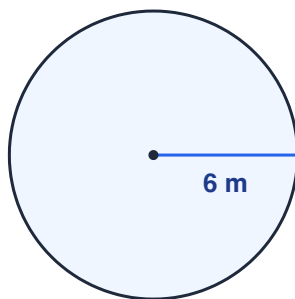
Work out the circumference of the circle. Give your answer correct to 1 decimal place.

WORKING OUT SPACE

Answer: .....

**Question 2**  **CALCULATOR****(2 marks)**

The diagram shows a shaded circle with a radius of 6 m.



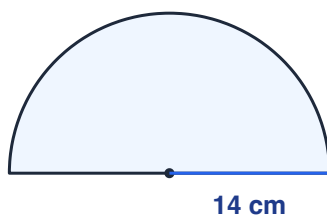
Work out the area of the circle. Give your answer correct to 1 decimal place.

WORKING OUT SPACE

Answer: .....

**Question 3**  **CALCULATOR****(3 marks)**

The diagram shows a semi-circle with a radius of 14 cm.



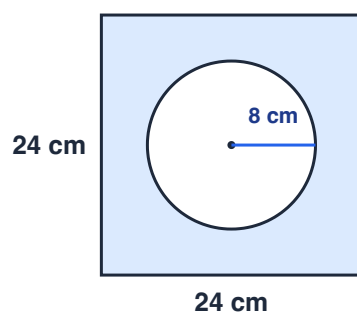
Work out the total perimeter of the semi-circle. Give your answer correct to 1 decimal place.

WORKING OUT SPACE

Answer: .....

**Question 4** **CALCULATOR****(4 marks)**

A circle of radius 8 cm is cut out from a square of side length 24 cm.

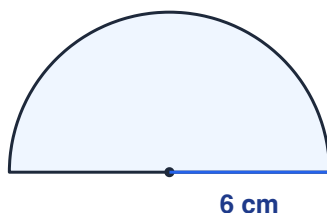


Work out the shaded area remaining. Give your answer correct to 1 decimal place.

WORKING OUT SPACE

**Answer:** .....**Question 5** **NON-CALCULATOR****(2 marks)**

The diagram shows a semi-circle with a radius of 6 cm.



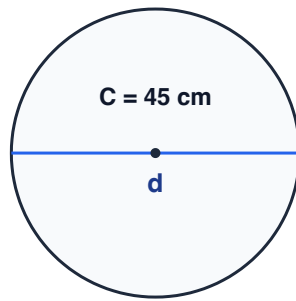
Work out the exact area of the semi-circle. Give your answer in terms of  $\pi$ .

WORKING OUT SPACE

**Answer:** .....

**Question 6** **CALCULATOR****(2 marks)**

The circumference of the circle shown is 45 cm.



Work out the diameter  $d$  of the circle. Give your answer correct to 1 decimal place.

WORKING OUT SPACE

**Answer:** .....

## GEOMETRY AND MEASURES • CIRCLES

## TOPIC 17: Parts of a Circle

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 6 marks

## Parts of a Circle — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(1 mark)

Write down the mathematical name for the red line from the centre to the edge of the circle.



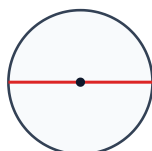
WORKING OUT SPACE

Answer: .....

Question 2 NON-CALCULATOR

(1 mark)

Write down the mathematical name for the red line passing through the centre from side to side.

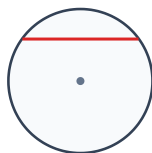


WORKING OUT SPACE

Answer: .....

**Question 3** NON-CALCULATOR**(1 mark)**

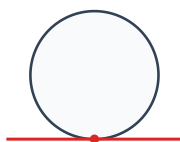
Write down the mathematical name for the red straight line joining two points on the circle (not through the centre).



WORKING OUT SPACE

**Answer:** .....**Question 4** NON-CALCULATOR**(1 mark)**

Write down the mathematical name for the red straight line that touches the outside of the circle at just one point.



WORKING OUT SPACE

**Answer:** .....**Question 5** NON-CALCULATOR**(1 mark)**

Write down the mathematical name for the shaded region between two radii and an arc.

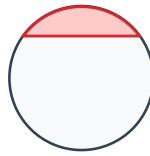


WORKING OUT SPACE

**Answer:** .....

**Question 6****NON-CALCULATOR****(1 mark)**

Write down the mathematical name for the shaded region cut off by a chord and an arc.



WORKING OUT SPACE

**Answer:** .....

## GEOMETRY AND MEASURES • 2D SHAPES

## TOPIC 18: Area of Compound Shapes

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

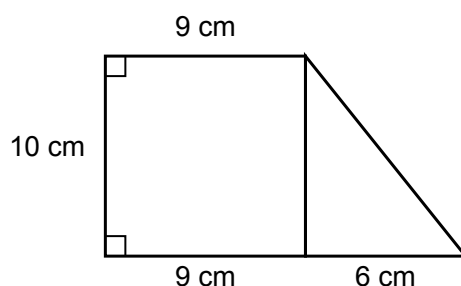
Total: 20 marks

## Area of Compound Shapes — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.Question 1 NON-CALCULATOR

(3 marks)

Work out the area of the shape.



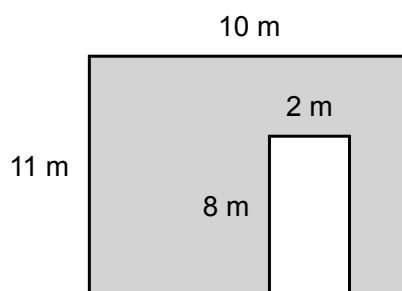
WORKING OUT SPACE

Answer: .....

Question 2 NON-CALCULATOR

(3 marks)

Work out the shaded area.

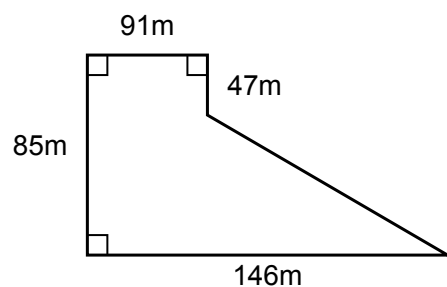


WORKING OUT SPACE

Answer: .....

**Question 3****CALCULATOR****(5 marks)**

The diagram shows the floor plan of a commercial development plot.  
A developer purchases the land for £6 per square metre.  
Work out the total cost of purchasing the plot.

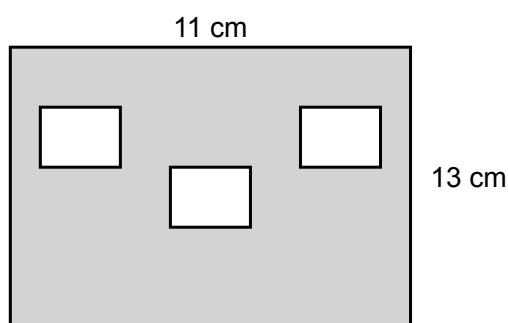


WORKING OUT SPACE

Answer: .....

**Question 4****NON-CALCULATOR****(3 marks)**

The diagram shows 3 small rectangles inside a large rectangle.  
The large rectangle is 11 cm by 13 cm.  
Each of the 3 small rectangles is 3 cm by 3 cm.  
Work out the area of the region shown shaded in the diagram.



WORKING OUT SPACE

Answer: .....

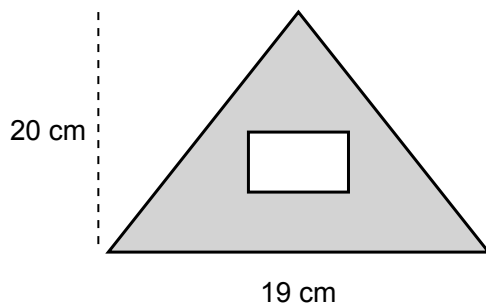
**Question 5** NON-CALCULATOR**(3 marks)**

The diagram shows a rectangle inside a triangle.

The triangle has a base of 19 cm and a height of 20 cm.

The rectangle is 7 cm by 4 cm.

Work out the area of the region shown shaded in the diagram.

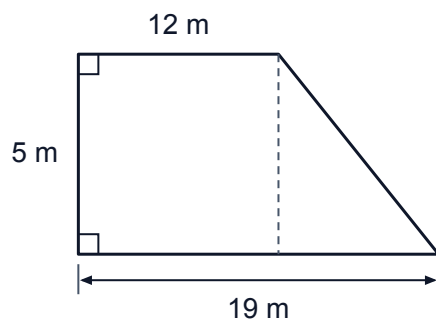


WORKING OUT SPACE

Answer: .....

**Question 6** CALCULATOR**(3 marks)**

Work out the area of the shape.



WORKING OUT SPACE

Answer: .....

## GEOMETRY AND MEASURES • 3D SHAPES

## TOPIC 19: 3D Solids, Plans &amp; Elevations

Target Grade 3

## EDEXCEL GCSE EXAM PRACTICE

Total: 9 marks

## 3D Solids, Plans &amp; Elevations — Practice Questions

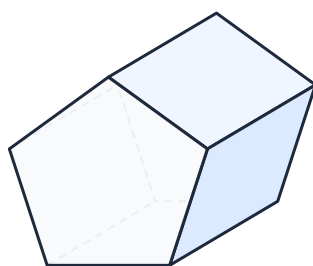
Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1 NON-CALCULATOR

(2 marks)

The diagram shows a pentagonal prism.

Work out the total number of **edges** of a pentagonal prism.



Pentagonal Prism

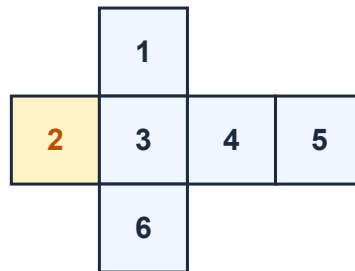
WORKING OUT SPACE

Answer: .....

**Question 2** NON-CALCULATOR**(1 mark)**

The diagram shows the net of a cube with faces numbered 1 to 6.

When the net is folded into a cube, which numbered face is **opposite** face 2?



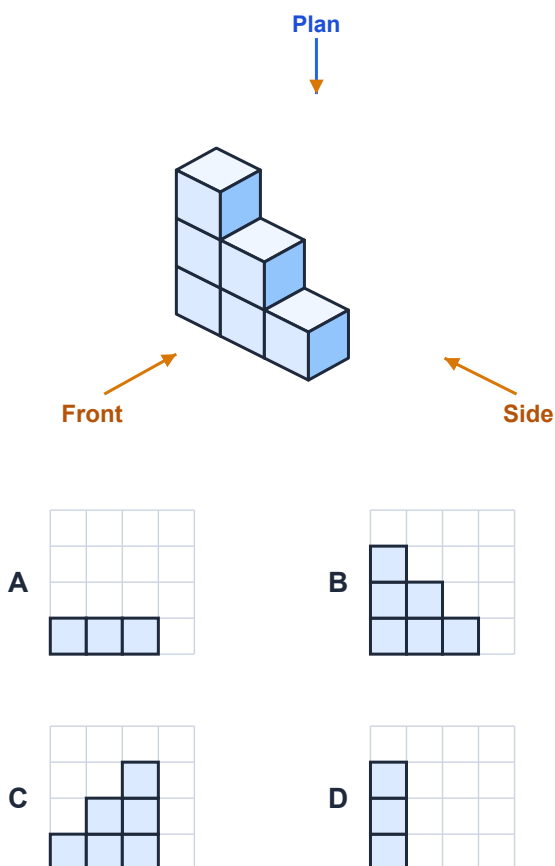
WORKING OUT SPACE

**Answer:** .....

**Question 3** NON-CALCULATOR**(1 mark)**

The diagram shows a 3D solid made from 6 centimetre cubes (each  $1\text{ cm} \times 1\text{ cm} \times 1\text{ cm}$ ).

Write down the letter (**A**, **B**, **C**, or **D**) of the grid that shows the **Front Elevation** from the direction of the *Front* arrow.

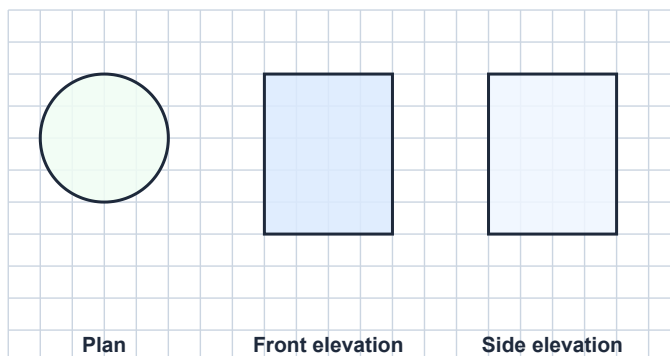


WORKING OUT SPACE

**Answer:** .....

**Question 4** NON-CALCULATOR**(1 mark)**

The diagram shows the plan, front elevation, and side elevation of a 3D solid drawn on a 1 cm square grid. Write down the mathematical name of the 3D solid.



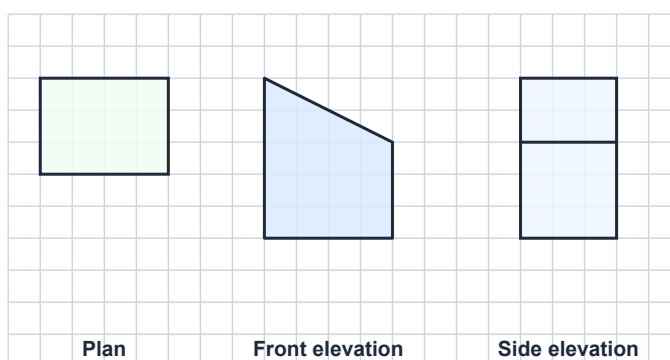
WORKING OUT SPACE

Answer: .....

**Question 5** NON-CALCULATOR**(2 marks)**

The diagram shows the plan, front elevation, and side elevation of a trapezoidal prism drawn on a 1 cm square grid.

Work out the **volume** of the prism in  $\text{cm}^3$ .



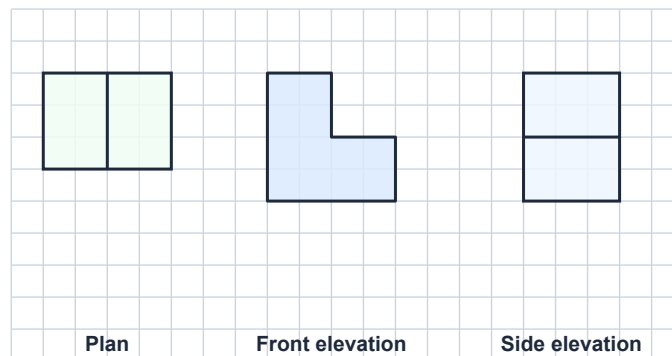
WORKING OUT SPACE

Answer: .....

**Question 6** NON-CALCULATOR**(2 marks)**

The plan, front elevation, and side elevation of an L-shaped prism are drawn side-by-side on a 1 cm square grid.

Work out the **volume** of the L-shaped prism in  $\text{cm}^3$ .



WORKING OUT SPACE

**Answer:** .....

TOPIC 20: Frequency Trees

Target Grade 3

EDEXCEL GCSE EXAM PRACTICE

Total: 12 marks

Frequency Trees — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

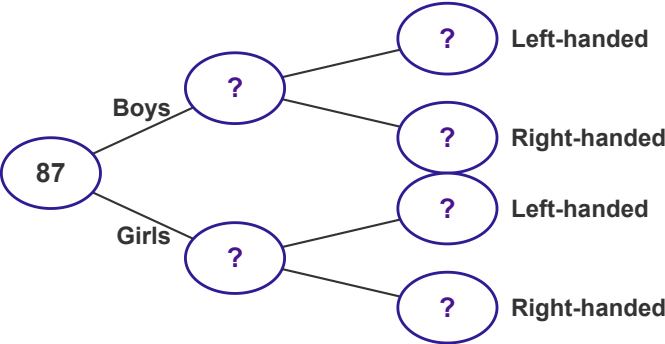
Question 1

NON-CALCULATOR

(2 marks)

87 people were surveyed. 43 of them are Boys. Of the boys, 26 are left-handed. 15 of the girls are right-handed.

Complete the frequency tree to find the number of left-handed girls.



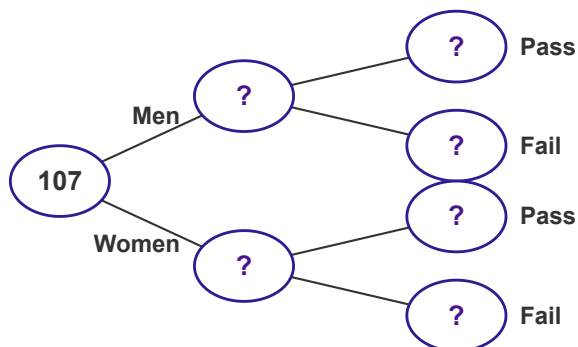
WORKING OUT SPACE

Answer: .....

**Question 2** NON-CALCULATOR**(2 marks)**

107 people were surveyed. 65 of them are Men. Of the men, 55 passed. 12 of the women failed.

Complete the frequency tree to find the number of women who passed.



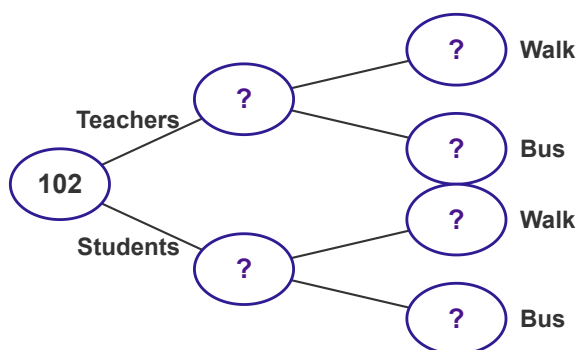
WORKING OUT SPACE

Answer: .....

**Question 3** NON-CALCULATOR**(2 marks)**

102 people were surveyed. 44 of them are Teachers. Of the teachers, 28 walk. 31 of the students take the bus.

Complete the frequency tree to find the number of students who walk.

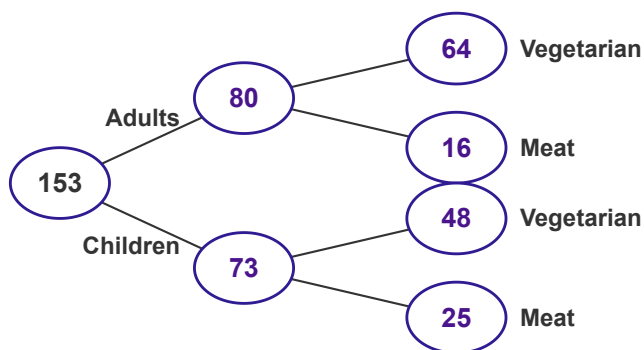


WORKING OUT SPACE

Answer: .....

**Question 4** NON-CALCULATOR**(2 marks)**

The frequency tree shows information about 153 people.



A person is chosen at random.

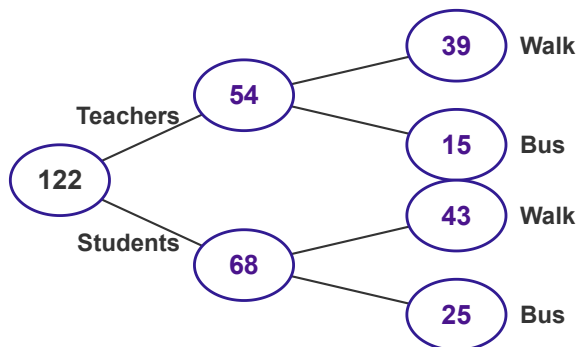
Find the probability that this person is an adult and vegetarian. (Give your answer as a simplified fraction).

WORKING OUT SPACE

Answer: .....

**Question 5** NON-CALCULATOR**(2 marks)**

The frequency tree shows information about 122 people.



A person is chosen at random from the **Students**.

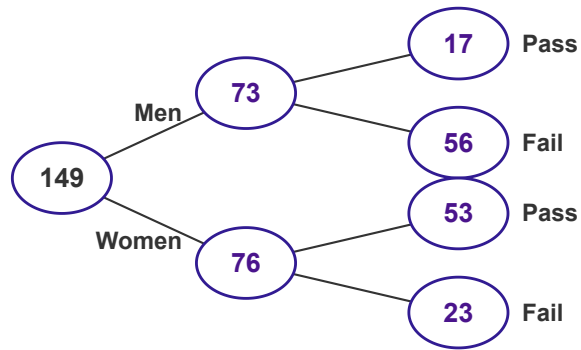
Find the probability that they are Bus. (Give your answer as a simplified fraction).

WORKING OUT SPACE

Answer: .....

**Question 6** NON-CALCULATOR**(2 marks)**

The frequency tree shows information about 149 people.



A person is chosen at random from the **Women**.

Find the probability that they are Fail. (Give your answer as a simplified fraction).

WORKING OUT SPACE

**Answer:** .....

TOPIC 21: Two-Way Tables

Target Grade 3

EDEXCEL GCSE EXAM PRACTICE

Total: 14 marks

Two-Way Tables — Practice Questions

Check the **Calculator** or **Non-Calculator** label on each question before you start. Show all working clearly.

Question 1

NON-CALCULATOR

(2 marks)

The two-way table gives information about 185 students.

|         | Maths | English | Science | Total |
|---------|-------|---------|---------|-------|
| Year 10 | 35    |         | 36      | 94    |
| Year 11 |       | 38      |         | 91    |
| Total   | 71    |         | 53      | 185   |

Work out the missing number for **Year 10** and **English**.

WORKING OUT SPACE

Answer: .....

Question 2

NON-CALCULATOR

(2 marks)

The two-way table gives information about how students travel to school.

|       | Walk | Car | Bus | Total |
|-------|------|-----|-----|-------|
| Boys  |      | 34  |     | 96    |
| Girls | 28   |     | 40  | 102   |
| Total | 59   | 68  | 71  |       |

Work out the missing **Grand Total** (bottom right cell).

WORKING OUT SPACE

Answer: .....

**Question 3** NON-CALCULATOR**(2 marks)**

The two way table gives information about how 133 students travel to school.

|       | Walk | Car | Bus | Total |
|-------|------|-----|-----|-------|
| Boys  | 28   |     |     | 66    |
| Girls |      | 28  | 28  |       |
| Total |      |     | 55  | 133   |

One of the students is picked at random.  
Write down the probability that they **walk** to school.

WORKING OUT SPACE

Answer: .....

**Question 4** NON-CALCULATOR**(2 marks)**

The two way table gives information about how 123 students travel to school.

|       | Walk | Car | Bus | Total |
|-------|------|-----|-----|-------|
| Boys  | 22   |     |     | 61    |
| Girls |      | 30  | 14  |       |
| Total |      |     | 39  | 123   |

One of the students is picked at random.  
Write down the probability that this student is a **boy** who travels by **car**.

WORKING OUT SPACE

Answer: .....

**Question 5** NON-CALCULATOR**(3 marks)**

131 Year 8 students travel to school by walk, bus, or bike.

- 74 of the students are boys. • 43 students go by bus.
- 17 of the 36 students who walk are boys. • 22 girls go by bike.

Complete the two-way table below to find how many **boys go by bike**.

|       | Walk | Bus | Bike | Total |
|-------|------|-----|------|-------|
| Boys  |      |     |      |       |
| Girls |      |     |      |       |
| Total |      |     |      | 131   |

WORKING OUT SPACE

**Answer:** .....**Question 6** NON-CALCULATOR**(3 marks)**

200 students are surveyed about their journey to college.

All of the students either walk to school or get the bus to school.

49% of the students walk to school.

44% of the students are boys.

19% of the students are boys who get the bus to school.

Work out how many **girls walk** to school.

WORKING OUT SPACE

**Answer:** .....

## MIXED REVIEW 1 • NON-CALCULATOR PAPER

Total: 29 marks

## Mixed Review 1 — Choosing the Right Method (Non-Calculator)

**Exam Strategy Tip:** Questions are mixed across different Grade 3 topics with no topic headings. Read each question carefully, choose the right method, and show every step clearly without a calculator.

**Question 1** ☒ NON-CALCULATOR

(2 marks)

Work out an estimate for the value of  $\frac{25.3 + 70.4}{0.095}$

WORKING OUT SPACE

Answer: .....

**Question 2** ☒ NON-CALCULATOR

(2 marks)

Calculate:  $\frac{1}{2} + \frac{1}{3}$

Give your answer in its simplest form.

WORKING OUT SPACE

Answer: .....

**Question 3** ☒ NON-CALCULATOR

(2 marks)

Isaac and Rachel share £450 in the ratio 4 : 5.

How much does Isaac get?

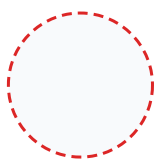
WORKING OUT SPACE

Answer: .....

**Question 4** 🚫 NON-CALCULATOR

(1 mark)

Write down the mathematical name for the total distance around the outside edge of a circle.



WORKING OUT SPACE

Answer: .....

**Question 5** 🚫 NON-CALCULATOR

(1 mark)

Find 75% of 500.

WORKING OUT SPACE

Answer: .....

**Question 6** 🚫 NON-CALCULATOR

(2 marks)

A number  $t$  is rounded to 1 decimal place.

The result is 6.6.

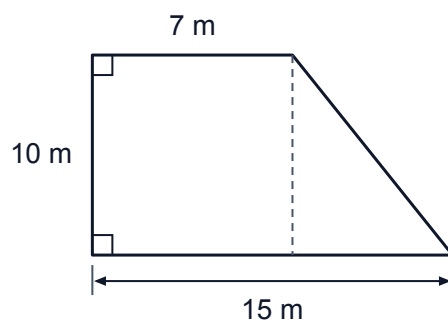
Write down the error interval for  $t$ .

WORKING OUT SPACE

Answer: .....

**Question 7** NON-CALCULATOR**(3 marks)**

Work out the area of the shape.



WORKING OUT SPACE

Answer: .....

**Question 8** NON-CALCULATOR**(3 marks)**Calculate:  $3\frac{4}{7} \times 1\frac{2}{5}$ 

Give your answer in its simplest form.

WORKING OUT SPACE

Answer: .....

**Question 9** NON-CALCULATOR**(2 marks)**

Change 450 cm to metres.

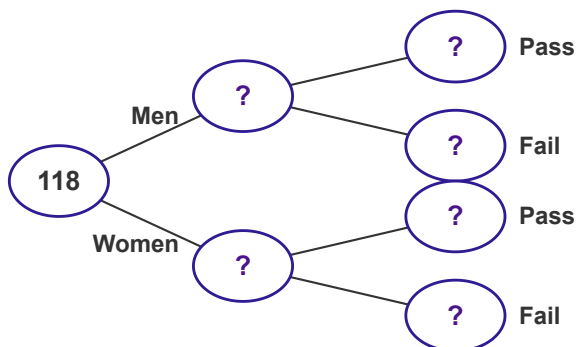
WORKING OUT SPACE

Answer: .....

**Question 10** NON-CALCULATOR**(2 marks)**

118 people were surveyed. 78 of them are Men. Of the men, 64 passed. 20 of the women failed.

Complete the frequency tree to find the number of women who passed.



WORKING OUT SPACE

Answer: .....

**Question 11** NON-CALCULATOR**(2 marks)**

Simplify the ratio 9 : 18 : 15 fully.

WORKING OUT SPACE

Answer: .....

**Question 12** NON-CALCULATOR**(2 marks)**

Here is a recipe for 12 cakes.

It requires 70g of oats.

Work out the amount of oats needed to make 36 cakes.

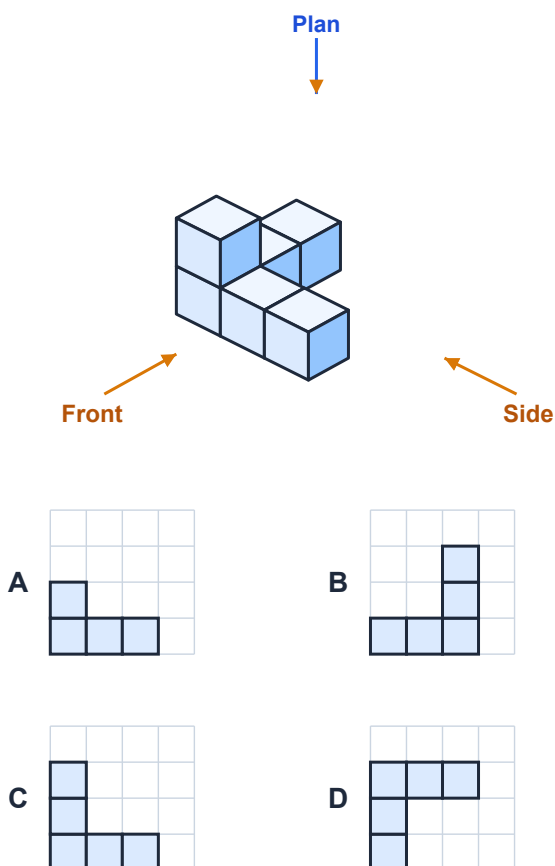
WORKING OUT SPACE

Answer: .....

**Question 13****NON-CALCULATOR****(1 mark)**

The diagram shows a 3D solid made from centimetre cubes (each  $1\text{ cm} \times 1\text{ cm} \times 1\text{ cm}$ ).

Write down the letter (**A**, **B**, **C**, or **D**) of the grid that shows the **Plan View** (looking straight down from above).



WORKING OUT SPACE

**Answer:** .....

**Question 14** NON-CALCULATOR**(2 marks)**

The two way table gives information about how 94 students travel to school.

|       | Walk | Car | Bus | Total |
|-------|------|-----|-----|-------|
| Boys  | 15   |     |     | 47    |
| Girls |      | 23  | 14  |       |
| Total |      |     | 30  | 94    |

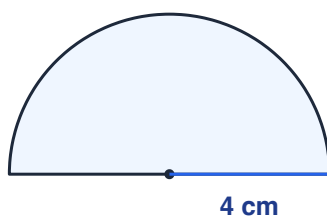
One of the students is picked at random.  
Write down the probability that they **walk** to school.

WORKING OUT SPACE

Answer: .....

**Question 15** NON-CALCULATOR**(2 marks)**

The diagram shows a semi-circle with a radius of 4 cm.



Work out the exact area of the semi-circle. Give your answer in terms of  $\pi$ .

WORKING OUT SPACE

Answer: .....

## MIXED REVIEW 2 • CALCULATOR PAPER

Total: 34 marks

## Mixed Review 2 — Choosing the Right Method (Calculator)

**Exam Strategy Tip:** Questions are mixed across different Grade 3 topics with no topic headings. Decide which method fits the question, write down the calculation you enter into your calculator, and check rounding at the end.

**Question 1**  CALCULATOR

(2 marks)

Marcus returns from holiday in USA and has \$280 left over.  
The exchange rate is £1 = \$1.28.

Work out how many pounds (£) are received.  
Give your answer to the nearest penny.

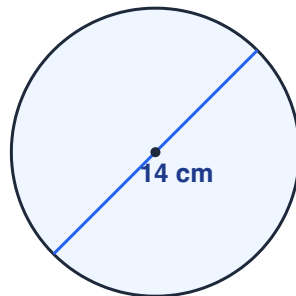
WORKING OUT SPACE

Answer: .....

**Question 2**  CALCULATOR

(3 marks)

The diagram shows a shaded circle with a diameter of 14 cm.



Work out the area of the circle. Give your answer correct to 1 decimal place.

WORKING OUT SPACE

Answer: .....

**Question 3** **CALCULATOR****(3 marks)**

Two packs of cereal are available.

Pack A: 800 grams for £3.07

Pack B: 500 grams for £2.06

Work out which pack offers the best value for money.

WORKING OUT SPACE

**Answer:** .....**Question 4** **CALCULATOR****(2 marks)**

Marcus puts £800 into a savings account that earns 2.5% simple interest per year.

Calculate the **interest** Marcus earns after 4 years.

WORKING OUT SPACE

**Answer:** .....**Question 5** **CALCULATOR****(3 marks)**

A model boat has a length of 12cm.

The scale of the model is 1:24.

Work out the length of the real boat.

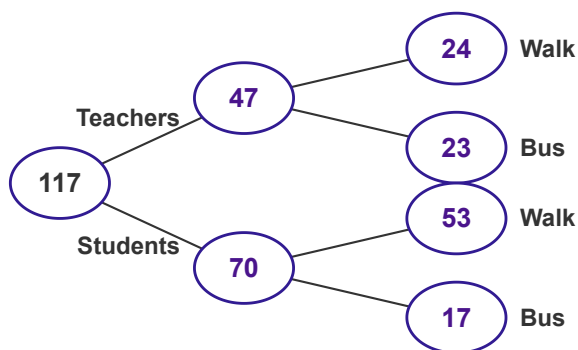
Give your answer in metres.

WORKING OUT SPACE

**Answer:** .....

**Question 6** **CALCULATOR****(2 marks)**

The frequency tree shows information about 117 people.



A person is chosen at random from the **Students**.

Find the probability that they are Bus. (Give your answer as a simplified fraction).

WORKING OUT SPACE

**Answer:** .....**Question 7** **CALCULATOR****(3 marks)**

Last year, a bill was £1685.

This year, the bill is £1804.

Work out the percentage increase.

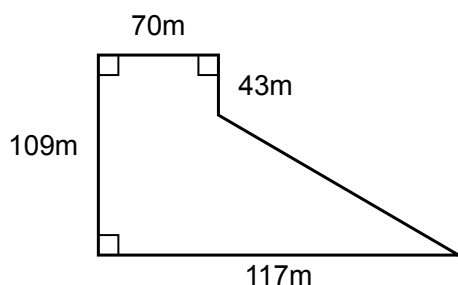
Give your answer correct to 1 decimal place.

WORKING OUT SPACE

**Answer:** .....

**Question 8** **CALCULATOR****(5 marks)**

The diagram shows the floor plan of a commercial development plot.  
A developer purchases the land for £2 per square metre.  
Work out the total cost of purchasing the plot.



WORKING OUT SPACE

**Answer:** .....**Question 9** **CALCULATOR****(2 marks)**

Here is a recipe for 16 cakes.  
It requires 90g of oats.

Work out the amount of oats needed to make 4 cakes.

WORKING OUT SPACE

**Answer:** .....**Question 10** **CALCULATOR****(2 marks)**

Franklin goes on holiday to Australia.  
The exchange rate is £1 = \$1.93.

Franklin changes £450 into Dollars.  
Work out how many Dollars are received.

WORKING OUT SPACE

**Answer:** .....

**Question 11** **CALCULATOR****(2 marks)**

Aisha borrows £1,500 to buy equipment for her bakery. The loan charges 7% simple interest per year for 3 years.

Calculate the **total interest** payable on the loan.

WORKING OUT SPACE

**Answer:** .....**Question 12** **CALCULATOR****(3 marks)**

Potatoes cost £6.75 for a 15 kg bag at a farm shop.

The same type of potatoes cost £0.92 for a 2 kg bag at a supermarket.

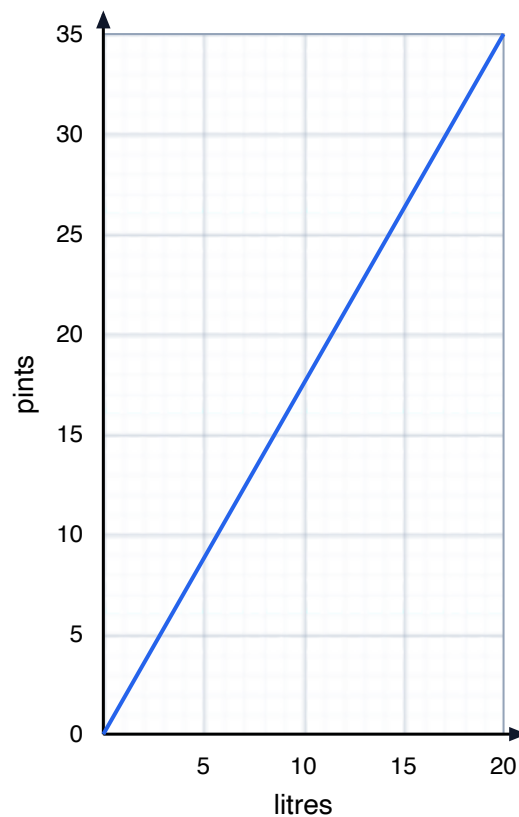
Where are the potatoes the better value, at the farm shop or at the supermarket?

WORKING OUT SPACE

**Answer:** .....

**Question 13** **CALCULATOR****(2 marks)**

You can use this graph to change between litres and pints.



Change 42 pints to litres.

WORKING OUT SPACE

**Answer:** .....

## APPENDIX

# Answers & Mark Schemes

Final answers for all 126 Topic Practice Questions and both Mixed Review Papers.

## Topic 1: Estimation

|                |      |      |
|----------------|------|------|
| Q1 (Non-Calc): | 3200 | [2m] |
| Q2 (Non-Calc): | 180  | [2m] |
| Q3 (Non-Calc): | 2000 | [2m] |
| Q4 (Non-Calc): | 600  | [2m] |
| Q5 (Non-Calc): | 11   | [2m] |
| Q6 (Non-Calc): | John | [2m] |

**Q2 Note:** For  $\sqrt{36.1}$ , we round to the nearest square number ( $\sqrt{36} = 6$ ) rather than 1 s.f. (40) so the root can be evaluated without a calculator:  $\frac{30 + 6}{0.2} = 180$ .

## Topic 2: Limits of Accuracy

|                |                        |      |
|----------------|------------------------|------|
| Q1 (Non-Calc): | 116.5                  | [1m] |
| Q2 (Non-Calc): | 89.5                   | [1m] |
| Q3 (Non-Calc): | $18.55 \leq w < 18.65$ | [2m] |
| Q4 (Non-Calc): | $1.645 \leq x < 1.655$ | [2m] |
| Q5 (Non-Calc): | $650 \leq p < 750$     | [2m] |
| Q6 (Non-Calc): | $2.23 \leq x < 2.24$   | [2m] |

## Topic 3: Fractions (+/-)

|                |                  |      |
|----------------|------------------|------|
| Q1 (Non-Calc): | $\frac{11}{12}$  | [2m] |
| Q2 (Non-Calc): | $\frac{8}{21}$   | [2m] |
| Q3 (Non-Calc): | $5\frac{1}{8}$   | [1m] |
| Q4 (Non-Calc): | $\frac{46}{7}$   | [1m] |
| Q5 (Non-Calc): | $8\frac{1}{12}$  | [3m] |
| Q6 (Non-Calc): | $2\frac{61}{72}$ | [3m] |

## Topic 4: Fractions (x/÷)

|                |                 |      |
|----------------|-----------------|------|
| Q1 (Non-Calc): | $\frac{1}{2}$   | [2m] |
| Q2 (Non-Calc): | $7\frac{1}{2}$  | [3m] |
| Q3 (Non-Calc): | $\frac{5}{6}$   | [2m] |
| Q4 (Non-Calc): | $\frac{4}{9}$   | [3m] |
| Q5 (Non-Calc): | $13\frac{1}{2}$ | [2m] |
| Q6 (Non-Calc): | $5\frac{5}{7}$  | [2m] |

## Topic 5: Reciprocals

|                |                |      |
|----------------|----------------|------|
| Q1 (Non-Calc): | 4              | [1m] |
| Q2 (Non-Calc): | $\frac{1}{7}$  | [1m] |
| Q3 (Non-Calc): | $\frac{4}{3}$  | [1m] |
| Q4 (Non-Calc): | $\frac{11}{5}$ | [1m] |
| Q5 (Non-Calc): | 5              | [1m] |
| Q6 (Non-Calc): | 100            | [1m] |

## Topic 6: Percentages of an Amount

|                |       |      |
|----------------|-------|------|
| Q1 (Non-Calc): | 40    | [1m] |
| Q2 (Non-Calc): | 8     | [1m] |
| Q3 (Non-Calc): | 129   | [1m] |
| Q4 (Non-Calc): | 120   | [1m] |
| Q5 (Non-Calc): | 47.6  | [1m] |
| Q6 (Calc):     | 108.5 | [1m] |

**Topic 7: Percentage Change**

|                |             |      |
|----------------|-------------|------|
| Q1 (Non-Calc): | <b>75</b>   | [2m] |
| Q2 (Non-Calc): | <b>40</b>   | [2m] |
| Q3 (Calc):     | <b>7.6</b>  | [3m] |
| Q4 (Calc):     | <b>7.3</b>  | [3m] |
| Q5 (Calc):     | <b>31.6</b> | [3m] |
| Q6 (Calc):     | <b>41.1</b> | [3m] |

**Topic 8: Simple Interest**

|                |             |      |
|----------------|-------------|------|
| Q1 (Non-Calc): | <b>150</b>  | [2m] |
| Q2 (Non-Calc): | <b>4025</b> | [3m] |
| Q3 (Calc):     | <b>360</b>  | [2m] |
| Q4 (Calc):     | <b>1936</b> | [3m] |
| Q5 (Calc):     | <b>767</b>  | [3m] |
| Q6 (Calc):     | <b>1400</b> | [2m] |

**Topic 9: Simplifying Ratios**

|                |               |      |
|----------------|---------------|------|
| Q1 (Non-Calc): | <b>7:12</b>   | [1m] |
| Q2 (Non-Calc): | <b>7:4:10</b> | [2m] |
| Q3 (Non-Calc): | <b>1:1.25</b> | [1m] |
| Q4 (Non-Calc): | <b>2:1</b>    | [2m] |
| Q5 (Non-Calc): | <b>1:150</b>  | [2m] |
| Q6 (Non-Calc): | <b>4:1:2</b>  | [2m] |

**Topic 10: Sharing in a Ratio**

|                |            |      |
|----------------|------------|------|
| Q1 (Non-Calc): | <b>140</b> | [2m] |
| Q2 (Non-Calc): | <b>70</b>  | [2m] |
| Q3 (Non-Calc): | <b>180</b> | [2m] |
| Q4 (Non-Calc): | <b>24</b>  | [2m] |
| Q5 (Non-Calc): | <b>12</b>  | [2m] |
| Q6 (Non-Calc): | <b>60</b>  | [2m] |

**Topic 11: Recipes**

|                |                                 |      |
|----------------|---------------------------------|------|
| Q1 (Non-Calc): | <b>150</b>                      | [2m] |
| Q2 (Calc):     | <b>37.5</b>                     | [2m] |
| Q3 (Non-Calc): | <b>48</b>                       | [2m] |
| Q4 (Non-Calc): | <b>45</b>                       | [3m] |
| Q5 (Non-Calc): | <b>Flour: 90 g, Sugar: 21 g</b> | [3m] |
| Q6 (Non-Calc): | <b>No</b>                       | [2m] |

**Topic 12: Exchange Rates**

|            |                |      |
|------------|----------------|------|
| Q1 (Calc): | <b>10487.5</b> | [2m] |
| Q2 (Calc): | <b>£77.61</b>  | [2m] |
| Q3 (Calc): | <b>£7.99</b>   | [2m] |
| Q4 (Calc): | <b>29</b>      | [2m] |
| Q5 (Calc): | <b>London</b>  | [3m] |
| Q6 (Calc): | <b>Yes</b>     | [3m] |

**Topic 13: Best Buys**

|                |                  |      |
|----------------|------------------|------|
| Q1 (Calc):     | <b>Farm shop</b> | [3m] |
| Q2 (Calc):     | <b>Pack B</b>    | [3m] |
| Q3 (Calc):     | <b>Pack C</b>    | [3m] |
| Q4 (Non-Calc): | <b>Pack B</b>    | [3m] |
| Q5 (Non-Calc): | <b>Pack A</b>    | [3m] |
| Q6 (Calc):     | <b>Pack B</b>    | [3m] |

**Topic 14: Unit Conversions**

|                |              |      |
|----------------|--------------|------|
| Q1 (Non-Calc): | <b>20530</b> | [2m] |
| Q2 (Calc):     | <b>680</b>   | [2m] |
| Q3 (Non-Calc): | <b>5</b>     | [2m] |
| Q4 (Non-Calc): | <b>25000</b> | [2m] |
| Q5 (Non-Calc): | <b>10</b>    | [3m] |
| Q6 (Non-Calc): | <b>64</b>    | [2m] |

**Topic 15: Scale Drawings & Maps**

|                       |             |      |
|-----------------------|-------------|------|
| <b>Q1</b> (Calc):     | <b>570</b>  | [2m] |
| <b>Q2</b> (Non-Calc): | <b>4.8</b>  | [2m] |
| <b>Q3</b> (Calc):     | <b>9.6</b>  | [3m] |
| <b>Q4</b> (Non-Calc): | <b>10</b>   | [3m] |
| <b>Q5</b> (Non-Calc): | <b>1.25</b> | [3m] |
| <b>Q6</b> (Non-Calc): | <b>4</b>    | [3m] |

**Topic 16: Area & Circumference**

|                       |                           |      |
|-----------------------|---------------------------|------|
| <b>Q1</b> (Calc):     | <b>47.1</b>               | [2m] |
| <b>Q2</b> (Calc):     | <b>113.1</b>              | [2m] |
| <b>Q3</b> (Calc):     | <b>72.0</b>               | [3m] |
| <b>Q4</b> (Calc):     | <b>374.9</b>              | [4m] |
| <b>Q5</b> (Non-Calc): | <b><math>18\pi</math></b> | [2m] |
| <b>Q6</b> (Calc):     | <b>14.3</b>               | [2m] |

**Topic 17: Parts of a Circle**

|                       |                 |      |
|-----------------------|-----------------|------|
| <b>Q1</b> (Non-Calc): | <b>Radius</b>   | [1m] |
| <b>Q2</b> (Non-Calc): | <b>Diameter</b> | [1m] |
| <b>Q3</b> (Non-Calc): | <b>Chord</b>    | [1m] |
| <b>Q4</b> (Non-Calc): | <b>Tangent</b>  | [1m] |
| <b>Q5</b> (Non-Calc): | <b>Sector</b>   | [1m] |
| <b>Q6</b> (Non-Calc): | <b>Segment</b>  | [1m] |

**Topic 18: Area of Compound Shapes**

|                       |              |      |
|-----------------------|--------------|------|
| <b>Q1</b> (Non-Calc): | <b>120</b>   | [3m] |
| <b>Q2</b> (Non-Calc): | <b>94</b>    | [3m] |
| <b>Q3</b> (Calc):     | <b>52680</b> | [5m] |
| <b>Q4</b> (Non-Calc): | <b>116</b>   | [3m] |
| <b>Q5</b> (Non-Calc): | <b>162</b>   | [3m] |
| <b>Q6</b> (Calc):     | <b>77.5</b>  | [3m] |

**Topic 19: 3D Solids, Plans & Elevations**

|                       |                 |      |
|-----------------------|-----------------|------|
| <b>Q1</b> (Non-Calc): | <b>15</b>       | [2m] |
| <b>Q2</b> (Non-Calc): | <b>4</b>        | [1m] |
| <b>Q3</b> (Non-Calc): | <b>B</b>        | [1m] |
| <b>Q4</b> (Non-Calc): | <b>Cylinder</b> | [1m] |
| <b>Q5</b> (Non-Calc): | <b>48</b>       | [2m] |
| <b>Q6</b> (Non-Calc): | <b>36</b>       | [2m] |

## Topic 20: Frequency Trees

Q1 (Non-Calc):

29

[2m]

Q2 (Non-Calc):

30

[2m]

Q3 (Non-Calc):

27

[2m]

Q4 (Non-Calc):

 $\frac{64}{153}$ 

[2m]

Q5 (Non-Calc):

 $\frac{25}{68}$ 

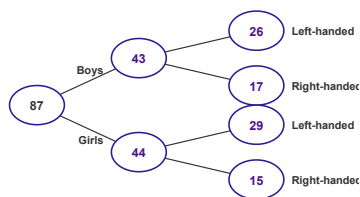
[2m]

Q6 (Non-Calc):

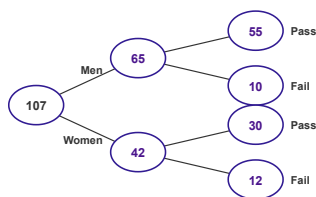
 $\frac{23}{76}$ 

[2m]

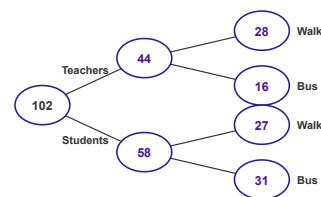
Q1 — Completed Frequency Tree



Q2 — Completed Frequency Tree



Q3 — Completed Frequency Tree



## Topic 21: Two-Way Tables

Completed values shown in **bold red**

Q1 (Non-Calc) — Completed Two-Way Table

[2m]

|         | Maths     | English   | Science   | Total |
|---------|-----------|-----------|-----------|-------|
| Year 10 | 35        | <b>23</b> | 36        | 94    |
| Year 11 | <b>36</b> | 38        | <b>17</b> | 91    |
| Total   | 71        | <b>61</b> | 53        | 185   |

Answer: 23

Q2 (Non-Calc) — Completed Two-Way Table

[2m]

|       | Walk      | Car       | Bus       | Total      |
|-------|-----------|-----------|-----------|------------|
| Boys  | <b>31</b> | 34        | <b>31</b> | 96         |
| Girls | 28        | <b>34</b> | 40        | 102        |
| Total | 59        | 68        | 71        | <b>198</b> |

Answer: 198

Q3 (Non-Calc) — Completed Two-Way Table

[2m]

|       | Walk      | Car       | Bus       | Total     |
|-------|-----------|-----------|-----------|-----------|
| Boys  | 28        | <b>11</b> | <b>27</b> | 66        |
| Girls | <b>11</b> | 28        | 28        | <b>67</b> |
| Total | <b>39</b> | <b>39</b> | 55        | 133       |

Answer:  $\frac{39}{133}$ 

Q4 (Non-Calc) — Completed Two-Way Table

[2m]

|       | Walk      | Car       | Bus       | Total     |
|-------|-----------|-----------|-----------|-----------|
| Boys  | 22        | <b>14</b> | <b>25</b> | 61        |
| Girls | <b>18</b> | 30        | 14        | <b>62</b> |
| Total | <b>40</b> | <b>44</b> | 39        | 123       |

Answer:  $\frac{14}{123}$ 

Q5 (Non-Calc) — Completed Two-Way Table

[3m]

|       | Walk      | Bus       | Bike      | Total     |
|-------|-----------|-----------|-----------|-----------|
| Boys  | 17        | <b>27</b> | <b>30</b> | 74        |
| Girls | <b>19</b> | <b>16</b> | 22        | <b>57</b> |
| Total | 36        | 43        | <b>52</b> | 131       |

Answer: 30

Q6 (Non-Calc) — Completed Two-Way Table

[3m]

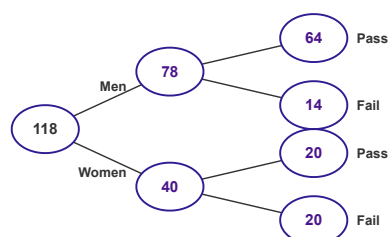
|       | Walk      | Bus        | Total      |
|-------|-----------|------------|------------|
| Boys  | <b>50</b> | 38         | 88         |
| Girls | <b>48</b> | <b>64</b>  | <b>112</b> |
| Total | 98        | <b>102</b> | 200        |

Answer: 48

## Mixed Review 1 — Non-Calculator Practice Paper — Answers & Topic Guide

|                                             |                               |                                          |                                                |
|---------------------------------------------|-------------------------------|------------------------------------------|------------------------------------------------|
| <b>Q1</b> (Estimation):                     | <b>1000</b> [2m]              | <b>Q2</b> (Fractions (+/-)):             | <b><math>\frac{5}{6}</math></b> [2m]           |
| <b>Q3</b> (Sharing in a Ratio):             | <b>200</b> [2m]               | <b>Q4</b> (Parts of a Circle):           | <b>Circumference</b> [1m]                      |
| <b>Q5</b> (Percentages of an Amount):       | <b>375</b> [1m]               | <b>Q6</b> (Limits of Accuracy):          | <b><math>6.55 \leq t &lt; 6.65</math></b> [2m] |
| <b>Q7</b> (Area of Compound Shapes):        | <b>110</b> [3m]               | <b>Q8</b> (Fractions ( $\times/\div$ )): | <b>5</b> [3m]                                  |
| <b>Q9</b> (Unit Conversions):               | <b>4.5</b> [2m]               | <b>Q10</b> (Frequency Trees):            | <b>20</b> [2m]                                 |
| <b>Q11</b> (Simplifying Ratios):            | <b>3:6:5</b> [2m]             | <b>Q12</b> (Recipes):                    | <b>210</b> [2m]                                |
| <b>Q13</b> (3D Solids, Plans & Elevations): | <b>C</b> [1m]                 | <b>Q14</b> (Two-Way Tables):             | <b><math>\frac{25}{94}</math></b> [2m]         |
| <b>Q15</b> (Area & Circumference):          | <b><math>8\pi</math></b> [2m] |                                          |                                                |

**Q10 — Completed Frequency Tree**



**Q14 — Completed Two-Way Table**

|       | Walk      | Car       | Bus       | Total     |
|-------|-----------|-----------|-----------|-----------|
| Boys  | 15        | <b>16</b> | <b>16</b> | 47        |
| Girls | <b>10</b> | 23        | 14        | <b>47</b> |
| Total | <b>25</b> | <b>39</b> | 30        | 94        |

Answer:  **$\frac{25}{94}$**

## Mixed Review 2 — Calculator Practice Paper — Answers & Topic Guide

|                                    |                     |                                      |                                        |
|------------------------------------|---------------------|--------------------------------------|----------------------------------------|
| <b>Q1</b> (Exchange Rates):        | <b>£218.75</b> [2m] | <b>Q2</b> (Area & Circumference):    | <b>153.9</b> [3m]                      |
| <b>Q3</b> (Best Buys):             | <b>Pack A</b> [3m]  | <b>Q4</b> (Simple Interest):         | <b>80</b> [2m]                         |
| <b>Q5</b> (Scale Drawings & Maps): | <b>2.88</b> [3m]    | <b>Q6</b> (Frequency Trees):         | <b><math>\frac{17}{70}</math></b> [2m] |
| <b>Q7</b> (Percentage Change):     | <b>7.1</b> [3m]     | <b>Q8</b> (Area of Compound Shapes): | <b>18362</b> [5m]                      |
| <b>Q9</b> (Recipes):               | <b>22.5</b> [2m]    | <b>Q10</b> (Exchange Rates):         | <b>\$868.50</b> [2m]                   |
| <b>Q11</b> (Simple Interest):      | <b>315</b> [2m]     | <b>Q12</b> (Best Buys):              | <b>Farm shop</b> [3m]                  |
| <b>Q13</b> (Unit Conversions):     | <b>24</b> [2m]      |                                      |                                        |