Name	Date started	Target end date

REVISE
.wales

F1.10 — Rounding & decimal places in context

Spec 1.1.4, 1.1.5, 1.1.7, 1.6.1, 1.6.2 — Unit 1 (calculator allowed)

Rounding numbers to the nearest 10, 100 or 1000, to a given number of decimal places or significant figures, and interpreting rounded results in context. Sourced from legacy WJEC GCSE Mathematics-Numeracy Foundation papers (3300U10/U20) and accessible content from Intermediate papers (3300U30/U40), organised for revision under the 2025 spec.

2025 SPECIFICATION

Estimated time for entire question pack: ~3 hours 52 minutes

*Derived from the GCSE Higher pace of **~1.5 min/mark** (155 marks across 60 questions).*

*You are advised to **not** attempt to complete all of this in one sitting.*

ABOUT THIS QUESTION PACK

This is a **focused single-topic practice pack**, not a single mock paper. Questions are organised against the 2025 specification.

Questions are ordered chronologically by sitting, with custom-written and SAM questions at the end.

INSTRUCTIONS

Use black ink or black ball-point pen. Show all working — method marks are awarded for clear setup.

A calculator is allowed on every question in this pack (Unit 1 is the calculator-allowed paper).

Rounding & decimal places in context — what the new spec asks

WJEC GCSE Mathematics (first teaching 2025) · Unit 1: calculator-allowed.

Place value & rounding 1.1.4

- Round whole numbers to the nearest 10, 100, 1000, etc.
- Identify the place value of digits in a decimal.
- Read scales accurately.

Decimal places 1.1.5

- Round a decimal to a specified number of decimal places.
- Use rounded values in context (money, measurements).
- Recognise when rounding has changed the meaning.

Significant figures 1.1.7

- Round to a specified number of significant figures.
- Use 1 sf rounding for estimation.
- Distinguish between sf and dp.

Estimation & checking 1.6.1

- Estimate the result of a calculation by rounding to 1 sf.
- Use estimation to check whether a calculator answer is reasonable.
- Explain why an estimate might be larger or smaller than the true value.

Crib sheet »

Rounding & decimal places in context in one page

Quick-reference notes — revisit before each question. Don't use during the questions.

Nearest 10/100/1000

Look at the digit immediately to the right of the place you're rounding to. 5 or more → round up. Less than 5 → round down.

Decimal places (dp)

To round to N dp, look at the (N+1)th decimal digit.

e.g. 3.456 to 2 dp → look at the 6 → round up → 3.46.

Significant figures (sf)

The first sf is the first non-zero digit.

e.g. 0.004 38 to 2 sf → 0.004 4.

4 327 to 2 sf → 4 300.

Rounding in money

Money is usually given to 2 dp (pence).

£3.4567 → £3.46.

Estimation

Round each number to 1 sf and calculate.

e.g. 387 × 21 ≈ 400 × 20 = 8000.

Common traps

- Chopping off digits instead of rounding ('truncating').
- Losing trailing zeros that are significant (e.g. 4300 to 2 sf still needs the zeros).
- Rounding twice in one calculation.

Examiner only

6. *(a)* Find the value of $\frac{235 \times 20^2}{17}$.

Write your answer correct to the nearest 10. [2]

.....

.....

(b) Find the value of $\sqrt{56 - 37} + 28$.

Write your answer correct to 2 decimal places. [2]

.....

.....

7. Find the value of $8x + 3y$, when $x = 3$ and $y = -2$. [2]

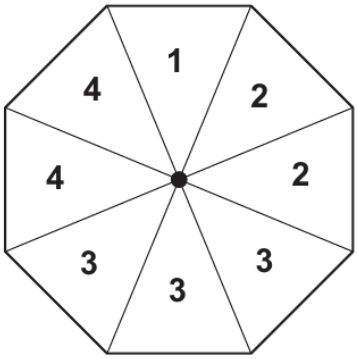
.....

.....

.....

Examiner only

11. Seren has a fair 8-sided spinner.
The sections of the spinner are numbered 1, 2, 2, 3, 3, 3, 4, 4.



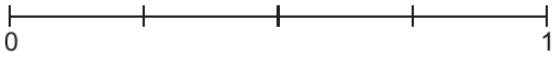
(a) Which number is the spinner most likely to land on? [1]

.....

(b) Circle one term from the list below that describes the probability of the spinner landing on a 2. [1]

impossible **unlikely** **even chance** **likely** **certain**

(c) On the probability scale below, mark with an arrow the probability of the spinner landing on a 3. [1]



Examiner only

11. *(a)* Calculate $\sqrt{8{\cdot}5^3 + (4{\cdot}5 - 0{\cdot}76)^2}$, correct to 3 significant figures. [2]

(b) Calculate the reciprocal of $-0{\cdot}07$, correct to 1 decimal place. [2]

12. Show that the triangle below is **not** a right-angled triangle. [5]

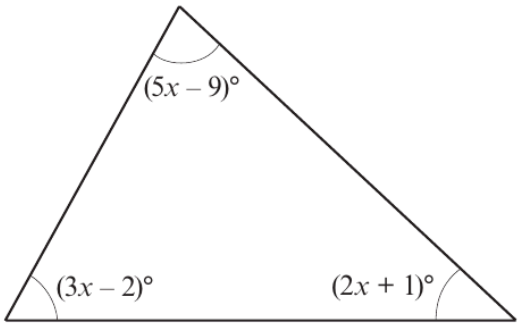


Diagram not drawn to scale

Examiner only

1. Fill in the boxes below to make each calculation correct. [4]

£3.26	+	89p	=	£ .....
78p	+	£	=	£5.45
7	×	46p	=	£ .....
.....	×	25p	=	£9.75

2. *(a)* Write 2453 correct to the nearest 10. [1]

.....

(b) Write in figures the number that is one less than ten thousand. [1]

.....

Examiner only

1. Using only the numbers in the following list,

10 11 12 13 14 15 16 17 18 19 20

write down

(a) two **prime** numbers that have a sum of 32, [2]

.....

The two numbers are ..... and .....

(b) a number that is a multiple of **both** 4 **and** 6, [2]

.....

(c) a number that is a factor of 51. [1]

.....

2. Circle the correct answer for each of the following.

(a) 16 km is approximately equal to [1]

5 miles 8 miles 10 miles 16 miles 32 miles

.....

(b) 2·2 lb is approximately equal to [1]

1 kg 2 kg 4·4 kg 5 kg 10 kg

.....

(c) 4 litres is approximately equal to [1]

4 pints 5 pints 6 pints 7 pints 8 pints

.....

Examiner only

8. *In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.*

In the diagram below, *ABCE* is a square whose perimeter is 28 cm.
CDE is a right-angled triangle whose area is 35 cm^2.

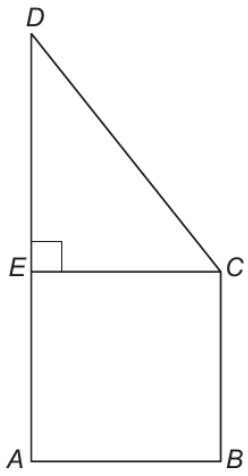


Diagram not drawn to scale

Calculate the length of *DE*.
You must show all your working. [4 + 2 OCW]

Examiner only

9. On the diagram, mark the point P with a cross so that

- $B\hat{A}P = 72°$,
- $AP = 6{\cdot}8\,\text{cm}$.

[2]

Examiner only

11. *(a)* Calculate $\frac{145{\cdot}3}{(12{\cdot}4 - 9{\cdot}8)^3}$, giving your answer correct to 3 significant figures. [2]

(b) Calculate the reciprocal of 47, giving your answer correct to 4 decimal places. [2]

12. Circle the correct answer in each of the following.

(a) Which of the following values **cannot** be an external angle of a regular polygon? [1]

10° 18° 30° 48° 72°

(b) An arrow on a spinner is facing north.
It is turned clockwise through an angle of 1530°.
In which direction will the arrow now be facing? [1]

North East South West None of these

(c) Point *A* is on a bearing of 100° from point *B*.
What is the bearing of point *B* from point *A*? [1]

260° 100° 280° 180° 80°

Examiner only

5. *(a)* Estimate the answer to $\frac{59 \times 301}{1997}$.

You must show all your working. [2]

(b) Given that $341 \times 57 = 19\,437$, write down the answer to each of the following.

(i) $3{\cdot}41 \times 5{\cdot}7$ [1]

(ii) $\frac{19\,437}{570}$ [1]

Examiner only

17. *(a)* Estimate the answer to $\frac{59 \times 301}{1997}$.

You must show all your working. [2]

(b) Given that $341 \times 57 = 19\,437$, write down the answer to each of the following.

(i) $3{\cdot}41 \times 5{\cdot}7$ [1]

(ii) $\frac{19\,437}{570}$ [1]

Examiner only

18. The diagram below shows two right-angled triangles *ABC* and *APQ*.
AB = 8·2 cm, *BC* = 6·4 cm and *PQ* = 7·9 cm.
$C\hat{A}Q = 90°$.

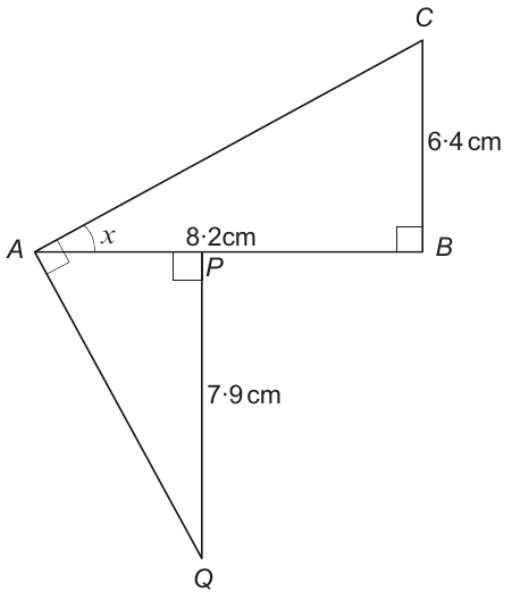


Diagram not drawn to scale

(a) Calculate the size of angle x. [3]

(b) Calculate the length *AQ*. [4]

END OF PAPER

Examiner only

2. *(a)* Find the value of $5f + 7g$ when $f = 3{\cdot}8$ and $g = -2{\cdot}6$. [2]

(b) Solve the following equation.
Give your answer correct to 1 decimal place. [3]

$$7x - 4 = 12$$

Examiner only

5. *(a)* Write 481·627 correct to 2 decimal places. [1]

.....

(b) Write down the value of 8^2. [1]

.....

(c) Write down the value of $\sqrt{49}$. [1]

.....

(d) Work out 38·25 ÷ 1000. [1]

.....

Examiner only

12. *(a)* Find the value of $5f + 7g$ when $f = 3{\cdot}8$ and $g = -2{\cdot}6$. [2]

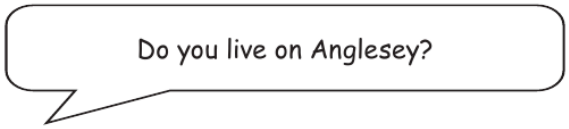
(b) Solve the following equation.
Give your answer correct to 1 decimal place. [3]

$$7x - 4 = 12$$

Examiner only

15. The Anglesey Show is a two-day event held every August.

(a) On the first day, a random sample of 2000 visitors at the show were asked:



640 of them answered 'Yes'.

What was the relative frequency of those who answered 'Yes'?
Give your answer as a decimal. [1]

(b) On the second day a random sample of 3000 visitors at the show were asked the same question.
The relative frequency of those who answered 'Yes' on this day was 0·42.

Calculate the relative frequency of those who said they lived on Anglesey when the samples for **both** days were combined.
Give your answer as a decimal. [4]

(c) Which of the following is most likely to give the best estimate for the relative frequency of visitors to the show living on Anglesey?
Circle your answer.

Your answer to part *(a)*	0·42	Your answer to part *(b)*

You **must** give an explanation for your choice. [1]

Examiner only

17. When a number is reduced by 15%, the answer is 6154.
What is the original number? [3]

.....

.....

.....

.....

.....

.....

18. *ABCD* is a cyclic quadrilateral in a circle with centre *O*.
$\widehat{ABC} = 126°$.

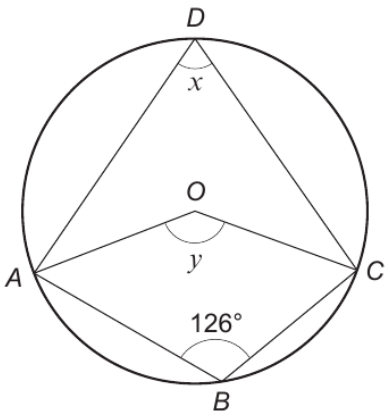


Diagram not drawn to scale

Write down the size of each of the angles x and y.
You must give a reason for each of your answers. [4]

x = ... °

Reason: .....

.....

y = ... °

Reason: .....

.....

END OF PAPER

Examiner only

11. *(a)* Calculate $12\frac{1}{2}\%$ of 1176. [2]

(b) Evaluate $\dfrac{4{\cdot}3 \times 8{\cdot}6}{9{\cdot}3 - 1{\cdot}4}$.

Give your answer correct to 1 decimal place. [2]

Examiner only

18. The right-angled triangle ABC has an area of $84\,cm^2$.
$AB = 24\,cm$.

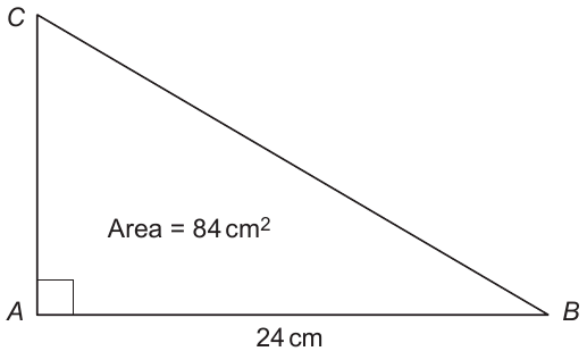


Diagram not drawn to scale

Calculate the perimeter of the triangle ABC.
You must show all your working. [6]

Examiner only

2. *(a)* Add 4571 and 862. [1]

(b) Subtract 643 from 817. [1]

(c) Calculate one quarter of 300. [1]

(d) Gwilym thinks of a number.
When he divides his number by 7, he gets an answer of 6.

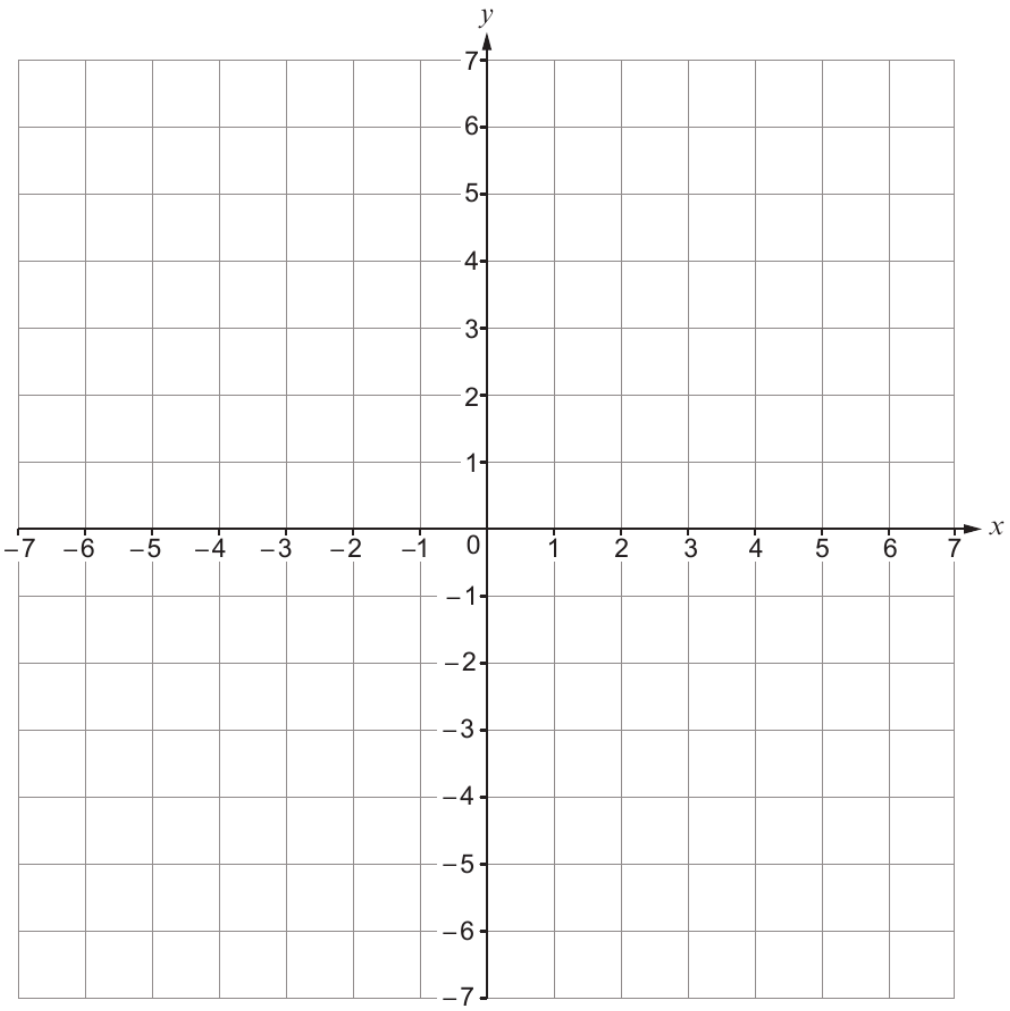
When he divides his number by 2, what should his answer be? [2]

3. *(a)* Write 637 correct to the nearest 100. [1]

(b) Write 3892 correct to the nearest thousand. [1]

Examiner only

2. *(a)* Draw the line $x = -4$ on the grid below. [1]

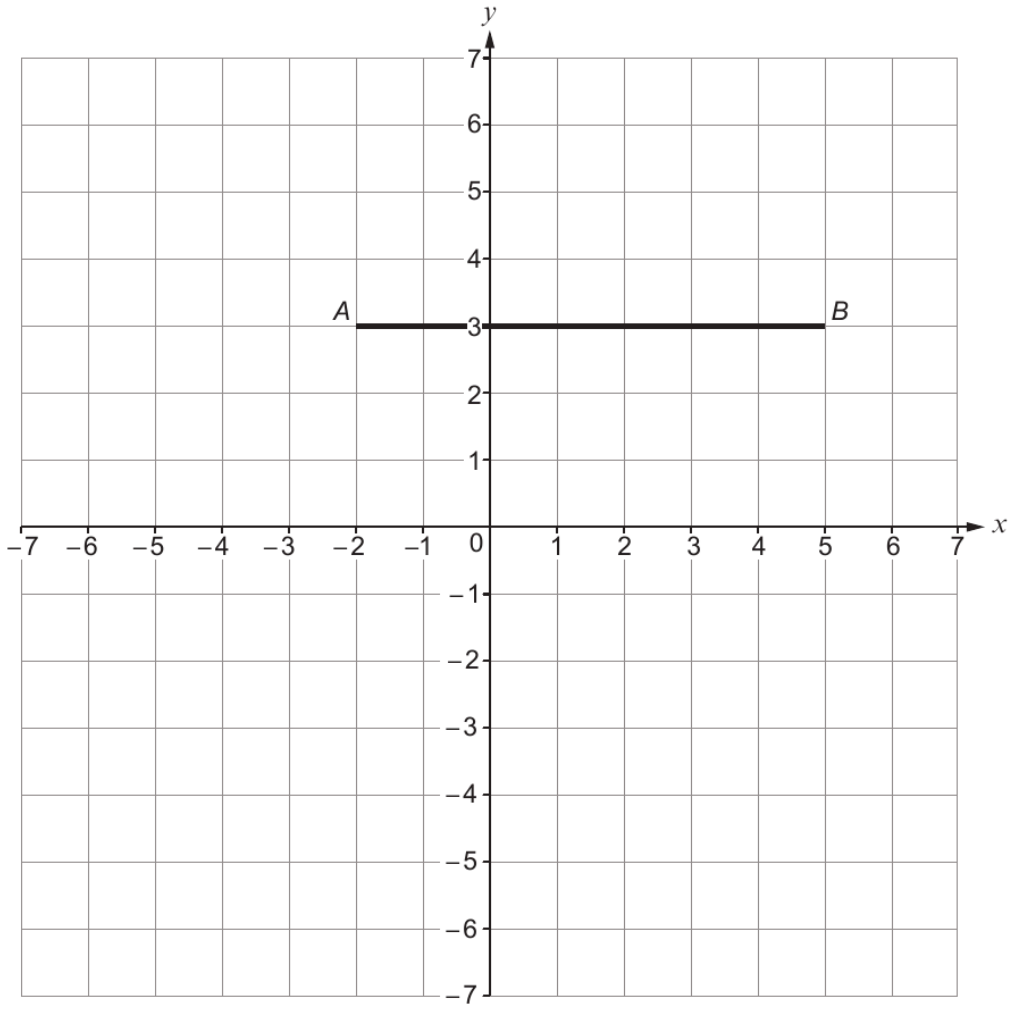


Examiner only

(b) *C* is a point on the grid below so that:

- $\widehat{BAC} = 90°$,
- $AC = AB$.

(i) Show the position of point *C* **on the grid**. [2]



(ii) Write down the coordinates of point *C*. [1]

.....

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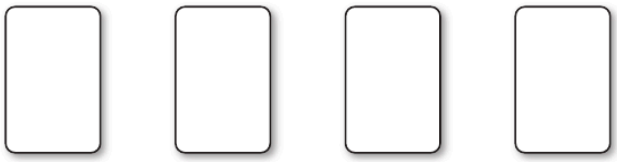
Examiner only

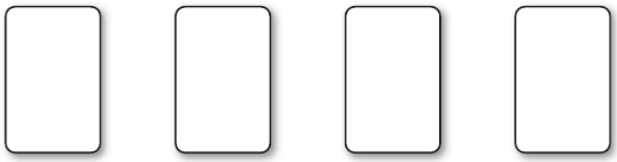
2. A card is chosen at random from a set of four cards.

In each question, **write numbers on the four cards** to make each of the following statements true.

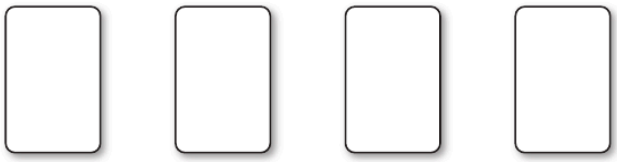
(a) It is certain that the chosen card will be a 5. [1]



(b) It is an even chance that the chosen card will be a 3. [1]



(c) It is unlikely that the chosen card will be a 2. [1]



3. *(a)* Write forty thousand and sixty-five in figures. [1]

.....

(b) Round 5378 to the nearest hundred. [1]

.....

Examiner only

5. *(a)* A camera was switched on at

21:45 on 20th March, 2021.

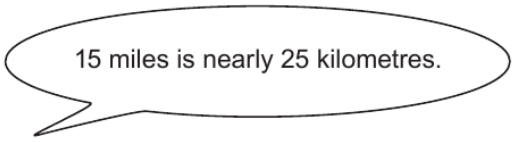
It was left continuously filming until the battery ran out.

The battery lasted for exactly 2 days and 10 hours.

At what time and on which date did the battery run out? [2]

Battery ran out at ..... : ..... on ..... March 2021.

(b) Helen says,



Is she correct?
You must show all your working. [2]

Examiner only

12. A company produces 440 boxes of paper clips each day.
Each box contains between 320 and 330 paper clips.

Calculate the approximate total number of paper clips produced in 200 days.
Give your answer to the nearest ten million.
You must show all your working. [4]

Examiner only

12. A solution of the equation

$$x^3 + 3x = 20$$

lies between 2 and 3.

Use the method of trial and improvement to find this solution correct to 1 decimal place.
You must show all your working. [4]

Examiner only

15. *ABCD* and *PQRS* are both squares.
AB = 9 cm.
Shaded area = 32 cm^2.

Calculate the length of *PQ*. [4]

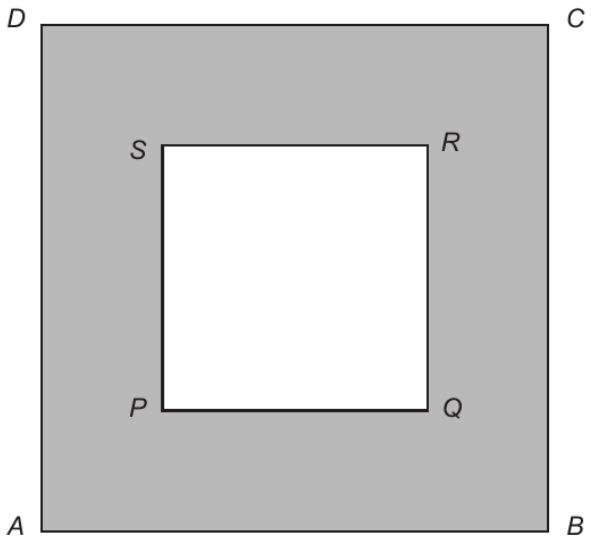


Diagram not drawn to scale

Examiner only

11. The table below shows some of the values of $y = x^2 + x - 4$ for values of x from –3 to 3.

x	–3	–2	–1	0	1	2	3
$y = x^2 + x - 4$	2	–2		– 4		2	8

(a) Complete the table by finding the values of y for $x = -1$ and for $x = 1$. [2]

(b) On the graph paper opposite, draw the graph of $y = x^2 + x - 4$ for values of x from –3 to 3. [2]

(c) Use your graph to solve the equation $x^2 + x - 4 = 0$.
Give your answers correct to 1 decimal place. [1]

$x =$ ..... or $x =$ .....

Examiner only

12. (a) Factorise $8x^2 + 6xy$. [2]

(b) (i) Factorise $x^2 + 13x + 40$. [2]

(ii) Explain how you can check that your answer to part (i) is correct. [1]

Examiner only

15. (a) Find a whole number value of n, so that $7n-9$ is a multiple of 4.
You must show all your working. [2]

When n = ..., $7n-9$ is a multiple of 4.

(b) Find a whole number value of n, so that $3n-5$ is a prime number.
You must show all your working. [2]

When n = ..., $3n-5$ is a prime number.

Examiner only

5. (a) Write 0·034 35 correct to two significant figures.
Circle your answer. [1]

0·03 0·033 0·0344 0·034 0·034 00

(b) Convert 6·7 m^2 into cm^2.
Circle your answer. [1]

670 6700 67 000 670 000 6 700 000

(c) Factorise $12e + 15$.
Circle your answer. [1]

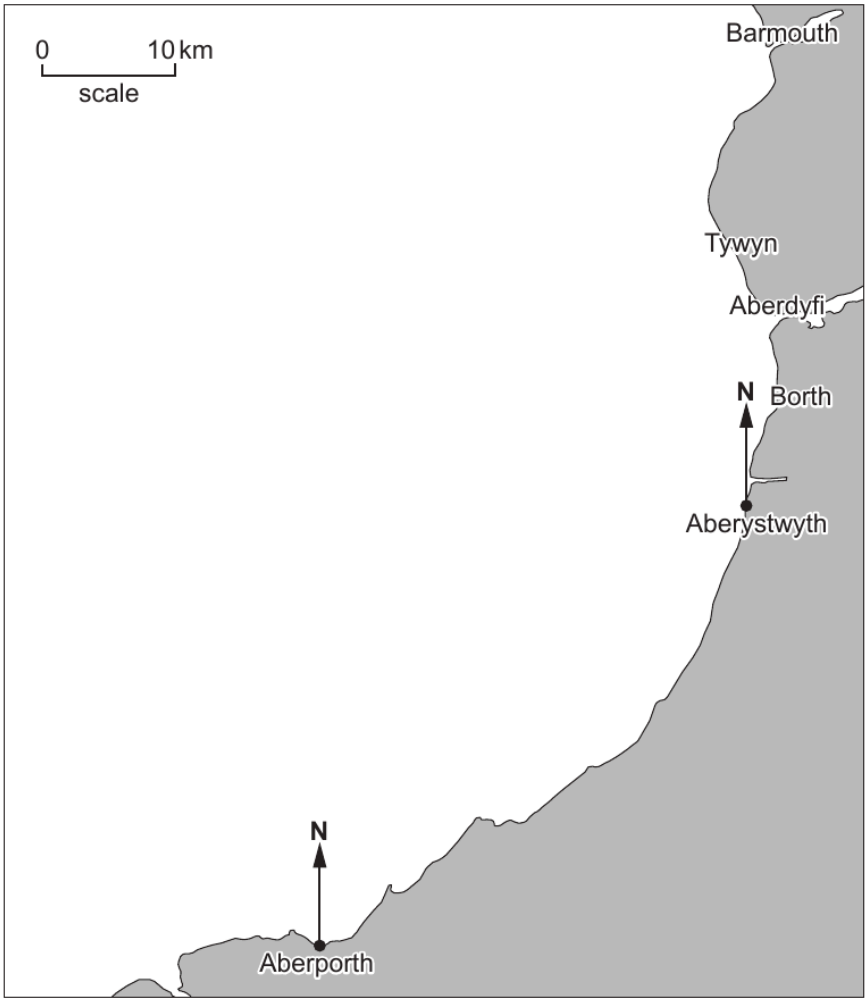
$27e$ $3(4e + 5)$ $12(e + 15)$ $5(12e + 3)$ $15(0 \cdot 8e + 3)$

Examiner only

6. Whales are sometimes spotted in the Irish Sea, off the west coast of Wales.

A minke whale was spotted on a bearing of:

- 010° from Aberporth
- 280° from Aberystwyth.



(a) Scientists decide to search for other whales in the Irish Sea.
The search area is the region within 20 km of the position where the minke whale was spotted.

Using the scale given, show this search area on the map above. [4]

Examiner only

(b) This minke whale has a length of 20 feet.

Remember: 1 inch ≈ 2·5 cm, 1 foot = 12 inches

Use these facts to complete the following statement. [3]

The minke whale has a length of ..... metres.

(c) The brain of a minke whale has 12·8 billion neocortical neurons.
A female human brain has 19 billion neocortical neurons.

Remember: 1 billion = 1000 million

(i) Calculate an **estimate** for the number of neurons in a minke whale brain expressed as a percentage of the number of neurons in a female human brain.
You must show all your working. [2]

Approximately ..... %

(ii) 10% of all neocortical neurons are lost over a human lifespan.
Calculate the number of neocortical neurons in a female human brain at the end of a lifespan.
Give your answer in standard form. [4]

Examiner only

6. Find the whole number that satisfies all of the following conditions:

- It is a whole number between 15 and 35 inclusive.
- The number is a multiple of 2 but not a multiple of 4.
- 3 is a factor of this number, but 9 is **not** a factor of this number. [2]

The whole number is .....

7. Calculate $\frac{15 \cdot 4^2}{14 \cdot 59 - 7 \cdot 67}$, correct to 1 decimal place. [2]

Examiner only

7. (a) 10 years ago, Matteo bought a car for £4500.
His car depreciated in value by 20% in the **first** year.
In each of the following years, his car depreciated by 14% of its previous year's value.

Show that the value of Matteo's car is now less than £950.

You must show all your working. [3]

(b) Matteo's car insurance has increased by 25% from the amount he paid last year.
His car insurance is £750 this year.

Calculate the amount Matteo paid for his car insurance last year. [2]

Matteo paid £ ..... for his car insurance last year.

Examiner only

(c) The diagram below shows the front of Matteo's garage.

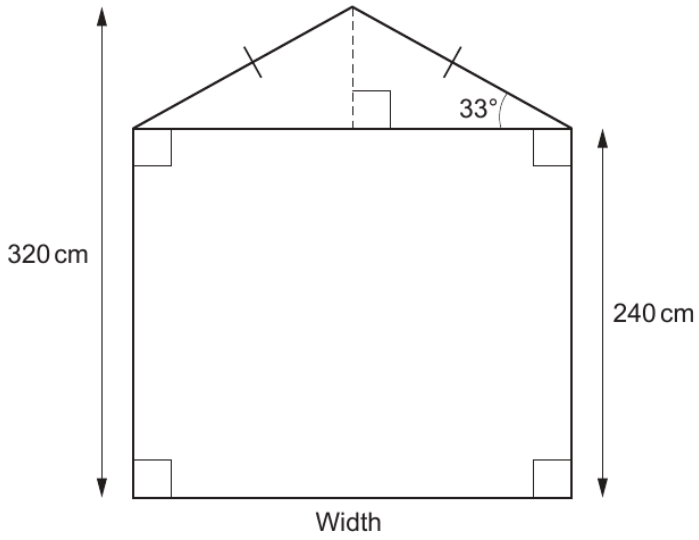


Diagram not drawn to scale

Calculate the width of Matteo's garage. [5]

Examiner only

(d) The length of Matteo's car is 400 cm, correct to the **nearest 10 cm**.
The length of his garage is 550 cm, correct to the **nearest 10 cm**.

When Matteo parks his car, he leaves exactly 70 cm between the car and the back wall of the garage.

Calculate the maximum length of the space between Matteo's car and the garage door.
[3]

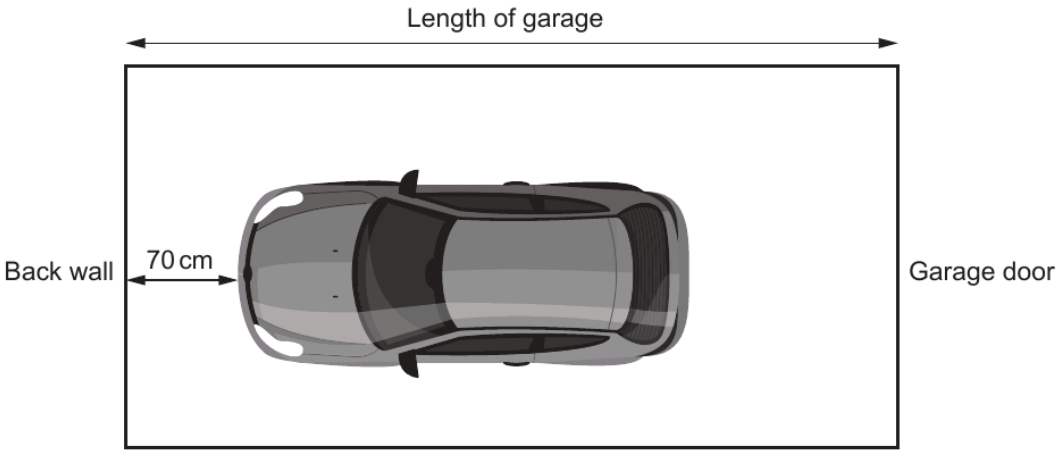


Diagram not drawn to scale

Examiner only

12. A solution to the equation

$$x^3 + 5x - 8 = 0$$

lies between 1 and 2.
Use the method of trial and improvement to find this solution correct to 1 decimal place.
You must show all your working. [4]

Examiner only

14. Find the whole number that satisfies all of the following conditions:

- It is a whole number between 15 and 35 inclusive.
- The number is a multiple of 2 but not a multiple of 4.
- 3 is a factor of this number, but 9 is **not** a factor of this number. [2]

The whole number is .....

15. Calculate $\frac{15 \cdot 4^2}{14 \cdot 59 - 7 \cdot 67}$, correct to 1 decimal place. [2]

Examiner only

12. A large number of prize tokens are placed in a box.
The tokens are identical in shape and size.

Gold, *Silver*, *Bronze* or *No Prize* is written on each token.

One token is chosen at random from the box.
The table below shows the probability of choosing a *Gold* prize token and the probability of choosing a *Silver* prize token.

Token	Gold	Silver	Bronze	No Prize
Probability	0·02	0·18		

(a) There are three times as many *No Prize* tokens in the box as there are *Bronze* prize tokens.

Complete the table. [2]

(b) There are 15 *Gold* prize tokens in the box.
How many *Silver* prize tokens are there in the box? [2]

Examiner only

1. Glen is trying to keep fit.

Glen works every day from Monday to Friday.
He sets himself two targets for these days.
The targets are to walk:

- at least 10 000 steps **every day** from Monday to Friday
- at least 50 000 steps **in total** from Monday to Friday.

He records the number of steps he takes each day from Monday to Friday.

Day	Number of steps
Monday	10 672
Tuesday	13 586
Wednesday	12 341
Thursday	11 932
Friday	9754

(a) Has Glen achieved his target to walk at least 10 000 steps **every day**?
Give a reason for your answer. [1]

Yes ☐ No ☐

.....

.....

.....

(b) Glen's second target was to walk at least 50 000 steps from Monday to Friday.
By how many steps did he beat this target? [2]

.....

.....

.....

(c) Approximately how many steps did Glen walk on Tuesday?
Give your answer correct to the nearest 100. [1]

.....

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03

Examiner only

2. (a) Arwyn doubles the number fifty-three thousand.
Write Arwyn's answer in figures. [2]

(b) Write 3572 correct to the nearest 100. [1]

(c) Calculate $6+4\times9$. [1]

(d) Estimate $103\times9\cdot8$. [2]

(e) Can 626 be divided exactly by 3?
You must show working to support your answer. [1]

Yes ☐ No ☐

Examiner only

2. A website lists the number of passengers who used UK airports in 2018.

(a) The table below shows some of these numbers.
They have been rounded to the nearest million.
One of the numbers is also represented in the pictogram below.

Airport	Number of passengers (to the nearest million)
Cardiff	.....
Bristol	9 000 000
Birmingham	.....
Exeter	.....
Leeds-Bradford	4 000 000

Key: ⊕ represents 4 000 000 passengers

Airport	
Cardiff	
Bristol	⊕ ⊕ ◔
Birmingham	
Exeter	
Leeds-Bradford	

In the table:

- the number of passengers who used Cardiff was 50% of the number of passengers who used Leeds-Bradford
- the number of passengers who used Birmingham was 3 times the number of passengers who used Leeds-Bradford
- the number of passengers who used Exeter was $\frac{1}{4}$ of the number of passengers who used Leeds-Bradford.

Complete the table **and** the pictogram. [6]

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Examiner only

(b) In 2018, approximately eighty million passengers used Heathrow airport.

(i) The number of passengers who used Gatwick airport in 2018 was 46 086 089.
Chris said:

"Gatwick had more than half the number of passengers that Heathrow had."

Is Chris correct?
Give a reason for your answer. [1]

Yes ☐ No ☐

.....

.....

.....

(ii) On the busiest day, two hundred and sixty-one thousand nine hundred and nine passengers used Heathrow airport.
Write this number using digits. [1]

.....

.....

(c) A plane flying from the UK to Corfu used 2508 litres of fuel per hour.
The flight was 3 hours long.
How many litres of fuel did the plane use? [2]

.....

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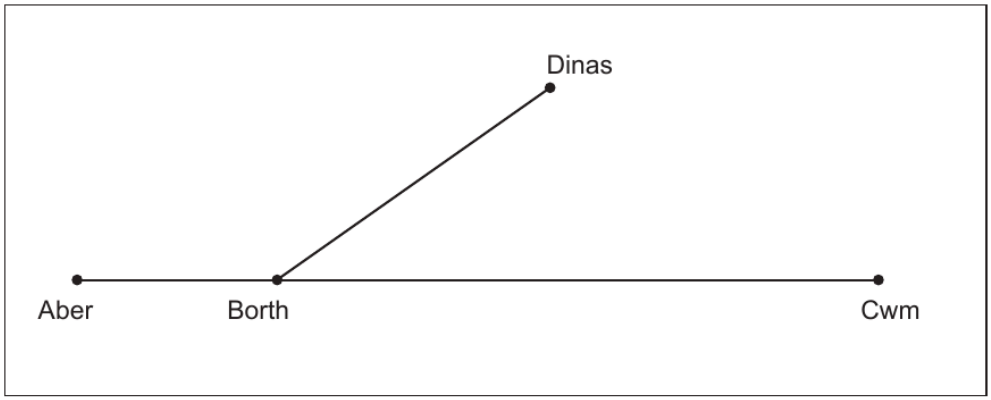
Examiner only

3. Siân belongs to a local running club.

(a) One weekend, Siân plans to run along some local paths.
- On Saturday, she plans to run from Aber to Cwm.
- On Sunday, she plans to run from Aber to Borth and then to Dinas.

Siân wants to work out the total distance for each run before she starts.

Siân uses the map below.
The scale of the map is 1 cm represents 0·5 miles.



Scale: 1 cm represents 0·5 miles

(i) How many miles is it from Aber to Cwm? [2]

.....

.....

.....

(ii) How many miles is it from Aber to Borth and then to Dinas? [2]

.....

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.....

Examiner only

(b) Siân trains at her local rugby pitch, which is shown below.
Siân runs complete laps around the outside of the pitch.

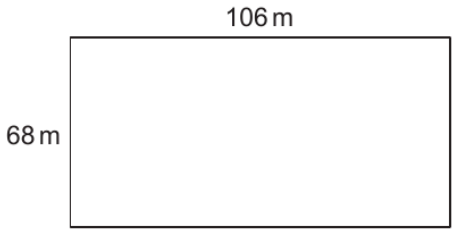


Diagram not drawn to scale

Siân wants to run at least 5000 m.

What is the smallest number of complete laps that Siân needs to run?
You must show all your working. [5]

Examiner only

5. (a) Evaluate $\frac{18 \cdot 4^3 + 8 \cdot 79}{7 \cdot 3^2}$.

Give your answer correct to the nearest 10. [2]

(b) Evaluate $\sqrt{1456} \times 3 \cdot 7$.

Give your answer correct to 1 decimal place. [2]

Examiner only

7. Write 27 minutes and 11 seconds in **seconds**. [2]

27 minutes and 11 seconds = ... seconds

8. (a) Find the value of $\frac{144 \times 30^2}{18}$.

Write your answer correct to the nearest thousand. [2]

(b) Calculate 4% of £250. [2]

(c) Laura thinks of a number.

$\frac{1}{5}$ of her number is 14.

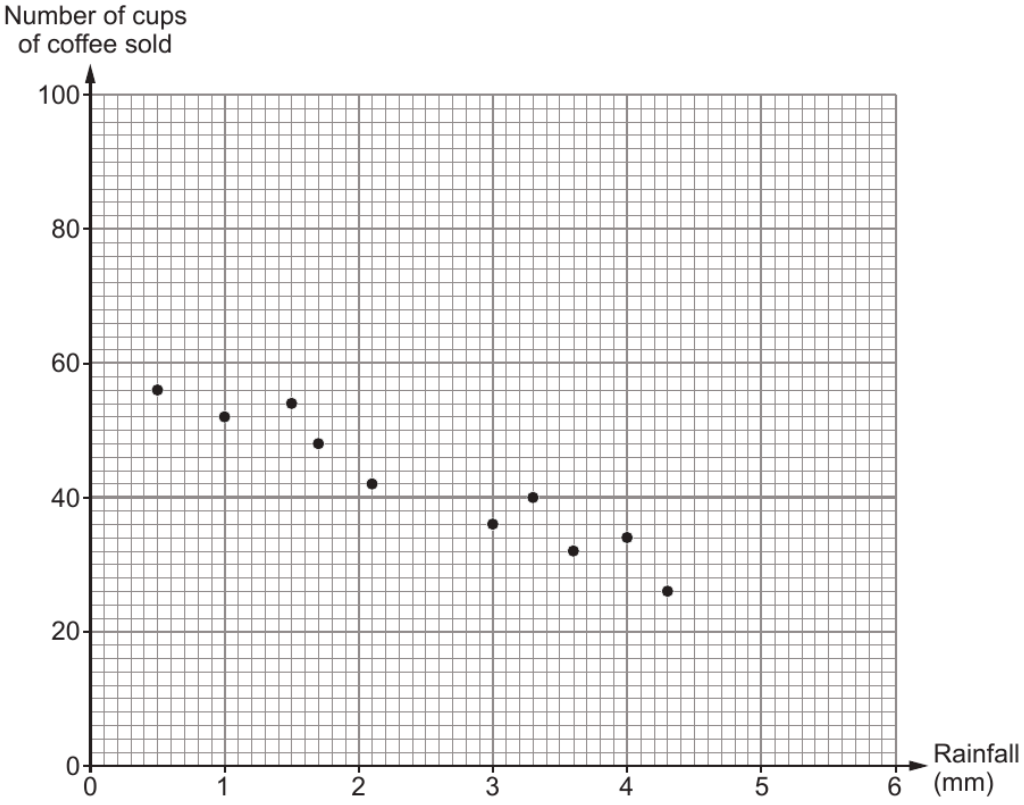
What is 50% of Laura's number? [3]

50% of Laura's number is .....

Examiner only

8. Anwen has an outdoor mobile coffee stall.

(a) It rained on each of the last 10 days.
Each day, Anwen recorded the amount of rainfall and the number of cups of coffee she sold.
The scatter diagram below shows her results.



For the last 10 days:
- the mean number of cups of coffee sold per day was 42
- the **total** rainfall was 25 mm.

(i) Give the coordinates of the point through which a line of best fit should be drawn.
Hence, draw a line of best fit on the scatter diagram. [2]

.....

.....

Coordinates of the point are (..... , ...)

Examiner only

(ii) Estimate the number of cups of coffee that Anwen expects to sell on a day when the rainfall is 2·0 mm.
Use your line of best fit to find your estimate. [1]

.....

Number of cups of coffee is .....

(b) Anwen buys her coffee beans in tins.
Each tin has a height of 18 cm, correct to the nearest 1 cm.

Calculate the maximum height of a stack of 5 of these tins. [2]

.....

.....

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.....

.....

(c) The height of the storage space under Anwen's serving counter is 97·5 cm, correct to the nearest 0·5 cm.

Anwen is going to buy a recycling bin of height exactly 97·3 cm.
Can Anwen be certain that she can fit this bin under her serving counter?

Yes ☐ No ☐ Can't decide ☐

You must show working to support your answer. [1]

.....

.....

.....

.....

.....

Examiner only

9. Write an expression, in terms of x, to represent each of the following.

(a) 5 more than x [1]

(b) x less than 3 [1]

(c) half of x [1]

10. (a) What is 2 litres approximately equal to?
Circle your answer. [1]

2 pints 3 pints 3·5 pints 4·4 pints 200 pints

(b) What is 32 km approximately equal to?
Circle your answer. [1]

16 miles 20 miles 32 miles 51 miles 64 miles

Examiner only

14. (a) Evaluate $\frac{18 \cdot 4^3 + 8 \cdot 79}{7 \cdot 3^2}$.

Give your answer correct to the nearest 10. [2]

(b) Evaluate $\sqrt{1456} \times 3 \cdot 7$.

Give your answer correct to 1 decimal place. [2]

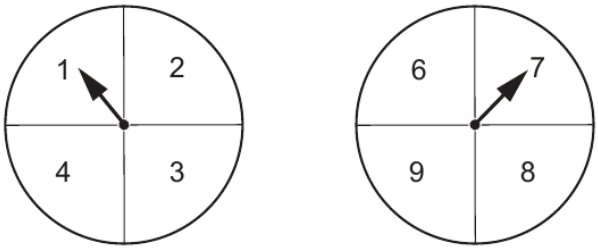
15. Kamal worked for a total of 36 hours in one week.
On Monday, Tuesday and Wednesday, he worked the same number of hours each day.
On both Thursday and Friday, he worked for half as long as he did on any of the first three days.
He did not work on Saturday or Sunday.

How many hours did Kamal work for on Friday? [2]

Kamal worked for ..... hours on Friday

Examiner only

15. Vera has two fair spinners.
Each spinner is divided into quarters.
One spinner shows the values 1, 2, 3 and 4.
The other spinner shows the values 6, 7, 8 and 9.



Vera spins the two spinners. She then multiplies the two values together to form a product.
For example, the diagram above forms the product $1 \times 7 = 7$.

Consider the ways in which all the possible products can be formed.
Calculate the probability that the spinners will form a product that is a factor of 36.
You must show all your working to justify your answer. [4]

Examiner only

16.

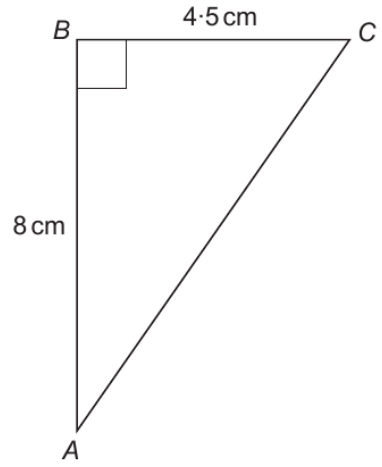


Diagram not drawn to scale

Calculate the length of the side *AC*.
Give your answer correct to 3 significant figures. [4]

Examiner only

17. A solution of the equation

$$x^3 + 6x = 80$$

lies between 3 and 4.

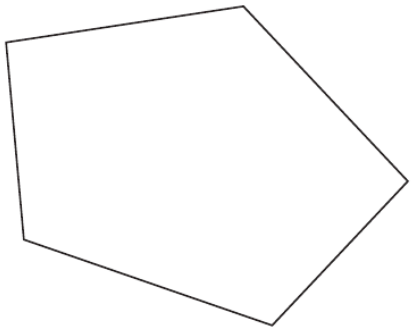
Use the method of trial and improvement to find this solution correct to 1 decimal place.
You must show all your working. [4]

Examiner only

1. (a) Calculate 5620 × 100. [1]

(b) Write 42 861 correct to the nearest hundred. [1]

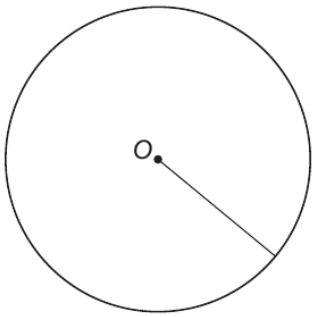
2. (a)



What is the special name of the shape shown above?
Circle your answer. [1]

pentagon hexagon kite parallelogram rhombus

(b)



O is the centre of the circle shown above.

What is the special name of the straight line shown in the diagram?
Circle your answer. [1]

circumference tangent diameter radius chord

Examiner only

2. (a) Which of the following is the nearest value to 488 grams?
Circle the correct answer. [1]

0·5 kg 500 kg 50 kg 5 tonnes 0·05 kg

(b) Circle the correct answer for the following. [1]
15 miles is approximately equal to

1500 m 24 km 15 km 2·4 km 3000 m

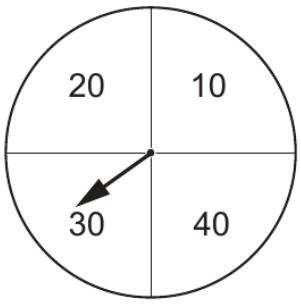
3. The nth term of a sequence is given by $5n - 1$.

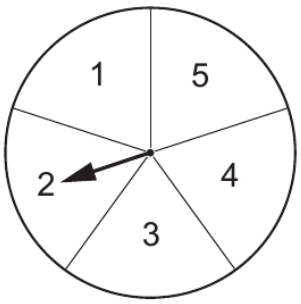
Calculate the sum of the first three terms.
You must show all your working. [3]

Sum of the first three terms = ...

Examiner only

8. Ahmed organises a game using two fair spinners, as shown below.
The first spinner shows the values 10, 20, 30 and 40.
The second spinner shows the values 1, 2, 3, 4 and 5.





In the game, the two spinners are spun and the values shown are added to give a score.
For example, the spinners above score 32.

Ahmed charges £1 for each attempt at the game.
Any player who scores **43 or more** wins £5.

Calculate Ahmed's expected profit when this game is played 100 times. [7]

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Examiner only

9. Write down the value of each of the following.

(a) (i) 7^2 [1]

.....

(ii) $\sqrt{81}$ [1]

.....

(b) (i) Write 19·731 correct to 1 decimal place. [1]

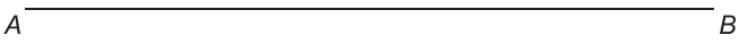
.....

(ii) Write 65·4279 correct to 3 decimal places. [1]

.....

10. On the diagram, mark the point C with a cross (×) so that:

- $A\hat{B}C = 55°$ and
- $BC = 7{\cdot}4\,\text{cm}$ [2]



Examiner only

8. *In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.*

What is $\frac{1}{3}$ of the time difference between 18:30 today and 10:30 tomorrow?

Give your answer in **hours and minutes**.
You must show all your working. [3 + 2 OCW]

9. Calculate the circumference of a circle with a radius of 38 cm.
Give your answer in cm, correct to 2 significant figures. [3]

Examiner only

11. Ifan has chosen four odd numbers.
Some of the numbers are the same and some of them are different.
Ifan's numbers are all less than 10.

Both the mode and the mean of Ifan's numbers are 7.

What numbers has Ifan chosen? [3]

Ifan's numbers are ☐ ☐ ☐ ☐

12. Evaluate each of the following.

(a) $0{\cdot}8 \times 0{\cdot}25$ [1]

(b) $13{\cdot}4 - 2{\cdot}96$ [1]

Examiner only

16. What is $\frac{1}{3}$ of the time difference between 18:30 today and 10:30 tomorrow?

Give your answer in **hours and minutes**.
You must show all your working. [3]

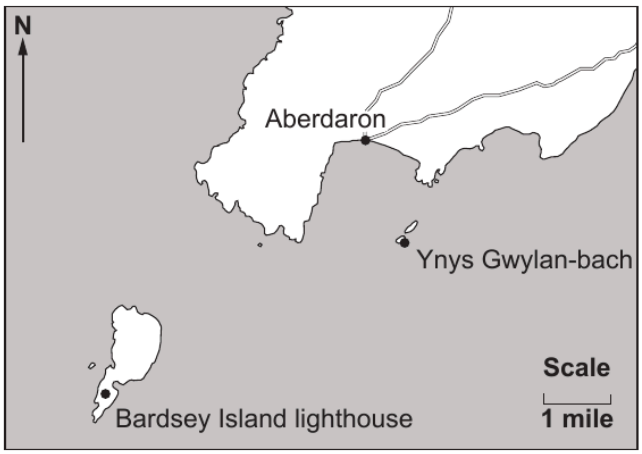
Answer is ..... hours ..... minutes.

17. Calculate the area of a circle with a radius of 8·7 cm.
Give your answer in cm^2, correct to the nearest whole number. [3]

Area = ... cm^2

Examiner only

4. (a) The map below shows part of the coastline and some islands off the coast of Gwynedd.



(i) Write down the bearing of Aberdaron from Bardsey Island lighthouse. [1]

..... °

(ii) Write down the bearing of Bardsey Island lighthouse from Ynys Gwylan-bach. [1]

.....

..... °

(iii) Huw can see Bardsey Island lighthouse from Ynys Gwylan-bach.
How far is the lighthouse from Ynys Gwylan-bach?
Give your answer in **kilometres**.
You must show all your working. [2]

.....

.....

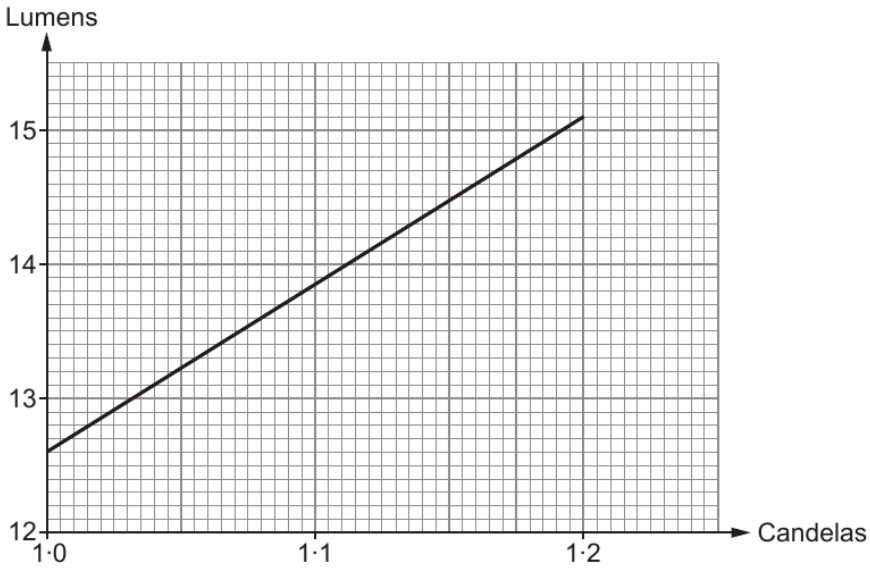
.....

.....

Examiner only

(b) The candela and the lumen are units that can be used to measure light intensity.

Below is a conversion graph.
You can use this graph to make approximate conversions between candelas and lumens for a particular type of light.



For this type of light, complete each of the following statements.

(i) 1·15 candelas is approximately equal to ..... lumens. [1]

(ii) 13·5 lumens is approximately equal to ..... candelas. [1]

(c) The light from Bardsey Island lighthouse has an intensity of approximately 52 000 candelas.
The light from Strumble Head lighthouse in Pembrokeshire has an intensity of approximately 1 000 000 candelas.

By estimating, complete the following statement.
You must show all your working. [2]

'The light from Strumble Head lighthouse is approximately ..... times as intense as the light from Bardsey Island lighthouse.'

.....

.....

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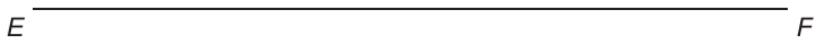
.....

Examiner only

4. (a) Draw $\hat{DEF} = 57°$.
The line EF has been drawn for you. [1]



(b) Dafydd draws an acute angle.
The angle is the same size as half a right angle.
What is the size of the acute angle? [2]

.....

The size of the acute angle is ..... °

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5. (a) Write 25 378 correct to the nearest 100. [1]

.....

(b) Write down the next number in this sequence. [1]

13, 25, 37, 49, ...

.....

(c) Divide 10 kg by 4.
Give your answer in grams. [2]

.....

.....

.....

Answer is ..... g

Examiner only

9. (a) The base of a flagpole is fixed to horizontal ground.
It is held vertically by a straight rod of length 3·8 m.
The rod is fixed to the ground and to a point 1·5 m from the top of the flagpole.
The flagpole and the rod are shown in the diagram below.

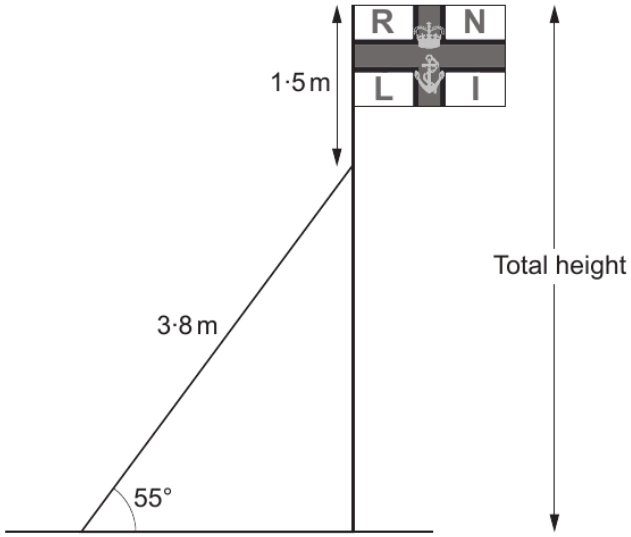

Diagram not drawn to scale

Calculate the **total** height of the flagpole.
Give your answer correct to the nearest centimetre. [4]

Examiner only

(b) Mathematically similar large, medium and small flags are made.

Diagrams not drawn to scale

(i) Calculate the length of the medium flag. [2]

.....

.....

.....

.....

Length of the medium flag is ..... cm

(ii) Calculate the height of the small flag. [2]

.....

.....

.....

.....

Height of the small flag is ..... cm

Examiner only

10. (a) Delia invests £4000 in an account that pays 3% compound interest per annum. She does not withdraw money or make any other payments into her account.

How much will Delia have in her account after **two years**? [3]

Amount in Delia's account after two years £ .....

(b) Delia bought a gold bracelet at a car boot sale a few years ago.

(i) Delia's bracelet has increased in value by 40%. Her gold bracelet is now worth £42.

Calculate how much Delia paid for the bracelet in the car boot sale. [2]

Delia paid £ .....

Examiner only

(ii) The density of the gold in Delia's bracelet is $20\,g/cm^3$.
The bracelet has a mass of 6×10^{-3} **kilograms**.

Calculate the volume of Delia's bracelet.
Give your answer in cm^3. [3]