1 **Making 1**

(a)   Join all the pairs of numbers that **add** together to equal **1**

The first one is done for you.

0.1		0.99
0.11		0.9
0.01		0.999
0.91		0.89
0.001		0.09
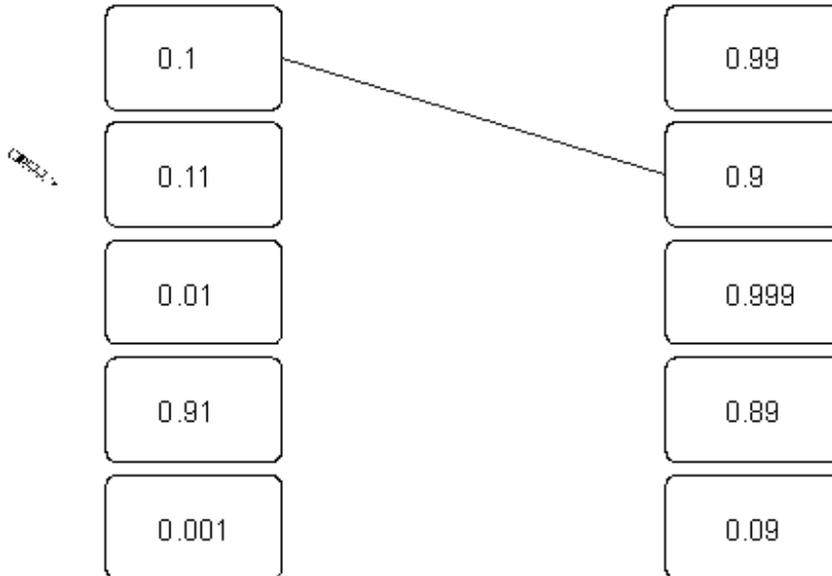
2 marks

(b)   Now join all the pairs of numbers that **multiply** to equal **1**

The first one is done for you.

1		2
0.5		4
0.25		1
0.1		20
0.05		10
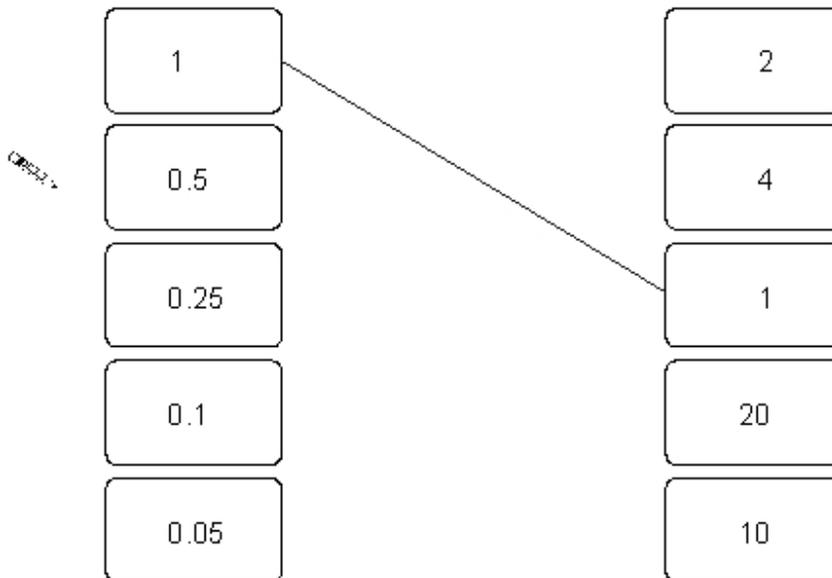
2 marks

2 **Remainder**

999 will divide exactly by 37

There is no remainder.

(a) Write down the remainder when **1000** is divided by 37

....
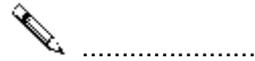
1 mark

(b) Write down the remainder when **998** is divided by 37

....
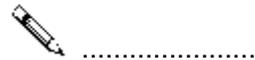
1 mark

(c) Write down a multiple of 37 that is bigger than 1000

....
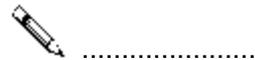
1 mark

3 **Two-digit number**

How many **two-digit** numbers have digits that add to twelve?

....

2 marks

4

(a) Write the number 852 in words.

_____

_____

1 mark

(b) Round 852 to the nearest 10

Answer _____

1 mark

5

This is part of a number line.

| 0 | $\frac{1}{4}$ | $\frac{1}{2}$ | $\frac{3}{4}$ | 1 | $1\frac{1}{4}$ | $1\frac{1}{2}$ | $1\frac{3}{4}$ | 2 |
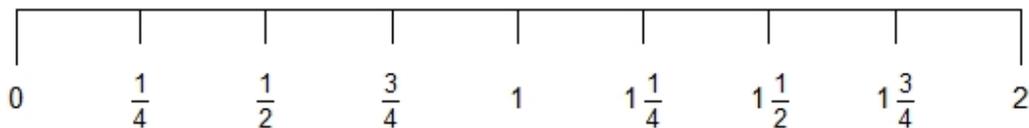
(a) Which number on the line has the same value as 0.25?

Answer _____

1 mark

(b) Which number on the number line is halfway between 0 and $1\frac{1}{2}$?

Answer _____

1 mark

(c) Mark on the number line the position of $1\frac{1}{3}$

1 mark

(d) Write as a decimal the number halfway between 0 and $\frac{1}{4}$

Answer _____

1 mark

6

A student measures the amount of rainfall, in centimetres, each day for five days.

Monday	Tuesday	Wednesday	Thursday	Friday
0.3	0.08	0.25	0.42	0.15

(a) Which day had the **least** rain?

Answer _____

(b) Which day had the **most** rain?

Answer _____

(c) How many **centimetres** of rain fell during the five days altogether?

_____

_____

_____

_____

_____

_____

Answer _____ cm

(d) How many **millimetres** of rain fell during the five days altogether?

Answer _____ mm

7 Which is bigger?

$$\frac{8}{5} \qquad \text{or} \qquad 1\frac{2}{5}$$

You **must** show your working.

_____

_____

_____

Answer _____

8 **Spinners**

On each spinner **write five numbers** to make the statements correct.

It is **certain** that you will get a number **less than 6**
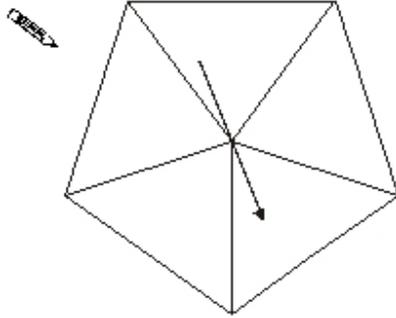
1 mark

It is **more likely** that you will get an **even** number than an **odd** number.
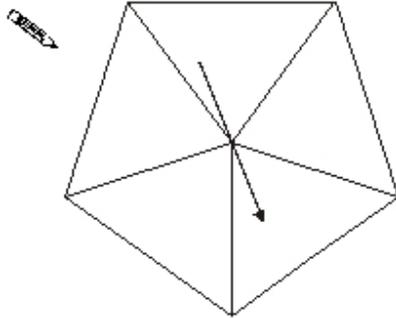
1 mark

It is **impossible** that you will get a **multiple of 3**
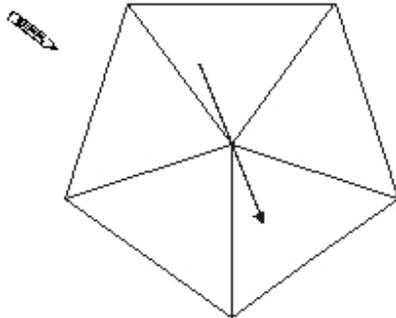
1 mark

9 **Puzzling out**

A teacher has five number cards.

She says:

'I am going to take a card at random.

Each card shows a **different** positive whole number.

It is **certain** that the card will show a number less than 10

It is **impossible** that the card will show an even number.'

What numbers are on the cards

[ ] [ ] [ ] [ ] [ ]

2 marks

10 **Spinner**

Tom has a fair spinner with 8 equal sections.
He is going to spin the pointer.
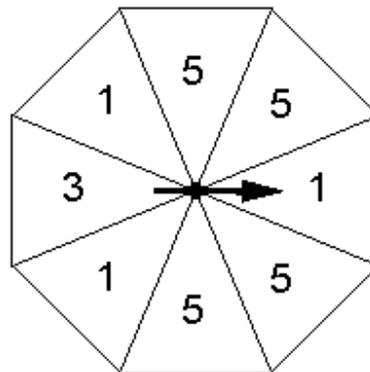
Draw lines to show how likely the following are.

One is done for you.

| He will spin the **number 3** | | certain |
He will spin the **number 5**		likely
He will spin the **number 6**		even chance
He will spin a **number less than 7**		unlikely
		impossible

2 marks

11 **Throwing dice**

Some pupils throw two fair six-sided dice. Each dice is numbered 1 to 6
One dice is blue. The other dice is red.

Anna's dice show **blue 5, red 3**
Her **total score** is **8**
The cross on the grid shows her throw.
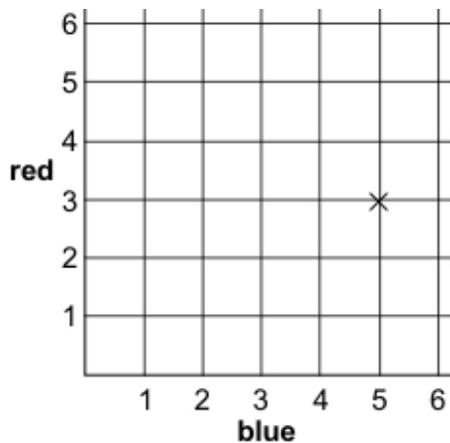
(a)   Carl's **total score** is **6**

What numbers could Carl's dice show?

Put crosses on the gird to show **all** the different pairs of numbers Carl's dice could show.
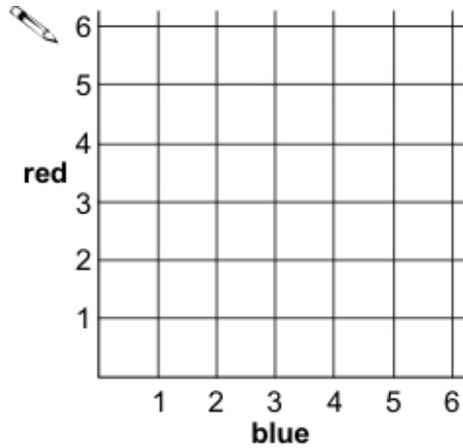
2 marks

(b)   The pupils play a game.

Winning rule:	Win a point if the number on the **blue** dice is the **same as** the number on the **red** dice.

Put crosses on the grid to show **all** the different winning throws.
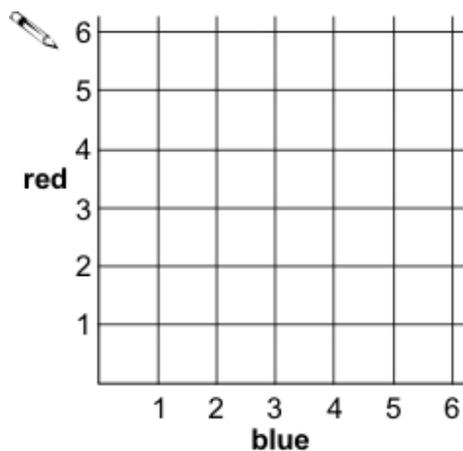
2 marks

(c)   The pupils play a different game.
      The grid shows all the different winning throws.
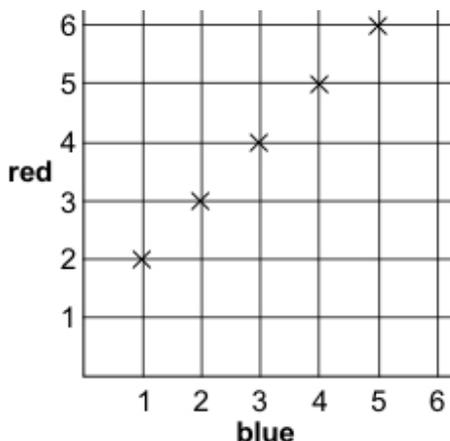
Complete the sentence below to show the winning rule.

Winning rule:	Win a point if the number on the **blue** dice is
	....

1 mark

12 **Throwing coins**

I throw a fair coin.

For each statement below, put a tick (✔) to show if the statement is **True** or **False.**

(a)   On **each** throw, the probability of getting a head is $\frac{1}{2}$

      True ☐   False ☐

      Explain your answer.

1 mark

(b)   On **four throws,** it is **certain** that I will get two heads and two tails.

True ☐   False ☐

Explain your answer.

1 mark

Four cards

A pupil has these four number cards.

| 2 | 4 | 6 | 8 |

She is going to mix them up and take one card at random.

Match each statement to the correct position on the probability scale.

One is done for you.

She will take a number **in the 4 times table.**

She will take an **even** number. ————————— • Certain

She will take an **odd** number. • • Even chance

She will take a number **less than 7** •

She will take the number **2** • • Impossible
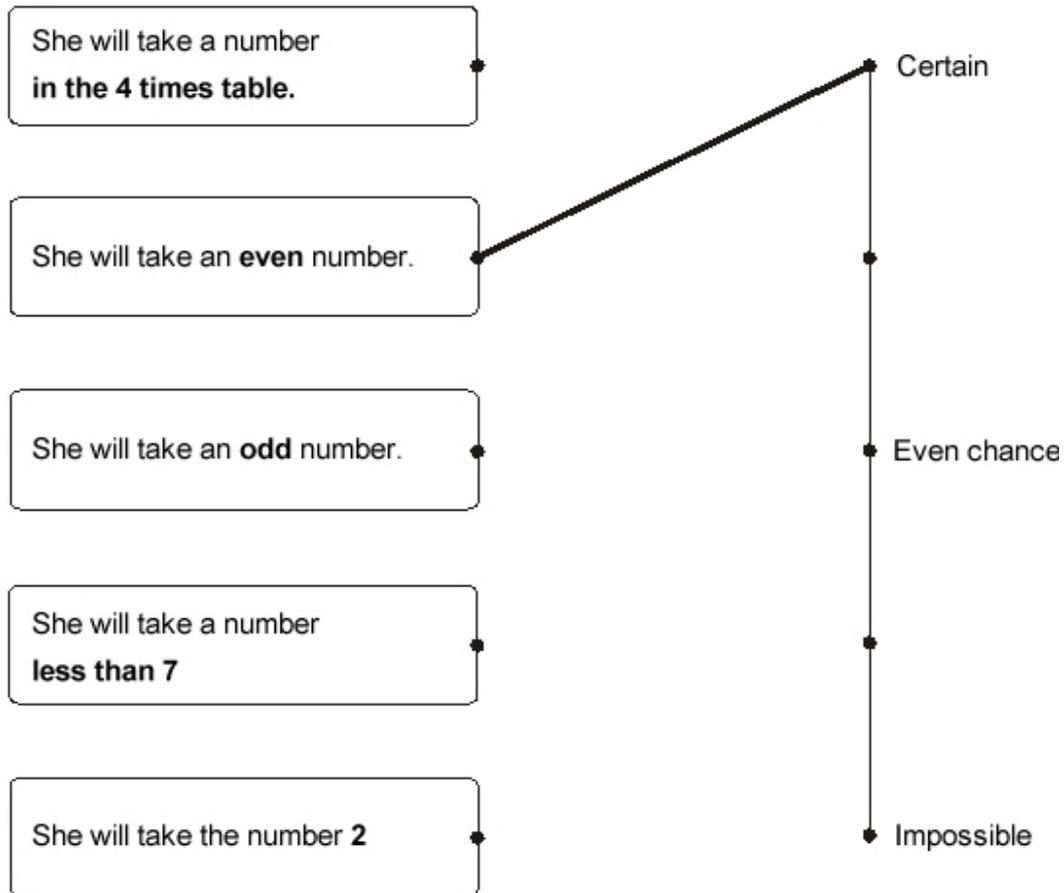
2 marks

14 I have a fair six-sided dice, numbered **4**, **9**, **12**, **16**, **20** and **24**

I am going to roll the dice.

(a) What is the probability of rolling a **multiple of 4**?

1 mark

(b) What is the probability of rolling a **square number**?

1 mark

15 **Rounding**

(a) Write the missing numbers in the sentences below.

2735 rounded to the **nearest hundred** is ....

1 mark

2735 rounded to the **nearest thousand** is ....

1 mark

(b) Give an example of what the missing number could be in the sentence below.

.... rounded to the **nearest ten** is **800**

1 mark

16 **Matching**

Match each instruction on the left with an instruction on the right that has **the same effect**.

The first one is done for you.

Left	Right
Add 0	Subtract 0
Add 2	Add $\frac{1}{2}$
Subtract 2	Subtract $\frac{1}{2}$
	Add −2
	Subtract −2
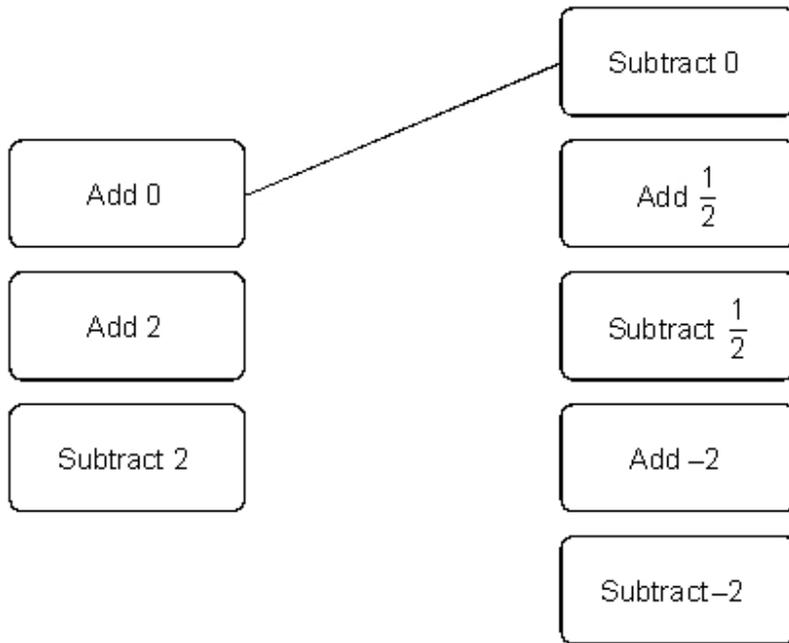
1 mark

17 (a) Every day a machine makes **500 000** drawing pins and puts them into boxes.

The machine needs **150** drawing pins to fill a box.

How many boxes can be filled with the 500 000 drawing pins?

.... boxes

1 mark

(b) Each drawing pin is made from **0.23g** of metal.

How many drawing pins can be made from **1kg** of metal?

.... drawing pins

2 marks

18 The price of a coat is £65

In a sale the price is **reduced** by **15%**

What is the sale price of the coat?

£

2 marks

19 **UK population**

In 2005, about 60.2 million people lived in the UK.

Look at the information about these people.

- 50.4 million lived in England.

- 5.1 million lived in Scotland.

- 3 million lived in Wales.

- The rest lived in Northern Ireland.

(a)   In 2005, about how many people lived in Northern Ireland?

$\longleftarrow$ [   ] million

1 mark

(b)   In 2005, about what percentage of people in the UK lived in Wales?

Tick (✔) the correct value.

$\longleftarrow$ [ ] 1%   [ ] 5%   [ ] 20%   [ ] 63%

1 mark

20 **What number?**

(a)   Write a number that is bigger than $5\frac{2}{3}$ but **smaller than 6**

$\longleftarrow$

1 mark

(b)   Now write a number that is **bigger than 5.6** but **smaller than** $5\frac{2}{3}$

$\longleftarrow$

1 mark