1   In 2009, the world record for the 100 m was 9.572 seconds.
     In 1968, it was 10.03 seconds.

     What is the difference between these two times?

.... seconds **[2]**

2   An athletics competition is held between four schools.
The table shows the probability of each school winning the competition.

School	1	2	3	4
Probability	0.15	0.37	x	$2x$

Work out the probability, x, of School 3 winning the athletics competition.

_____ **[3]**

3 **(a** Four students sell ice creams to raise money for charity.
They decide to share the money raised between their four charities as follows.

Andrea's charity	$\dfrac{1}{4}$
Bill's charity	$\dfrac{1}{3}$
Callum's charity	$\dfrac{3}{16}$
Davinder's charity	$\dfrac{5}{24}$

Put these fractions in order of size to show whose charity gets the most, second most and so on.
You must show your working.
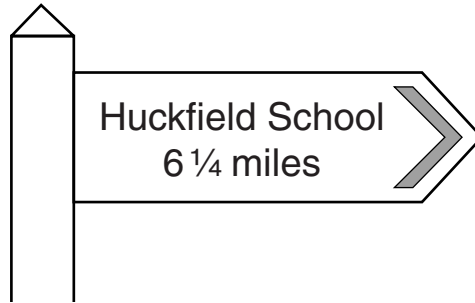
(a) _____ _____ _____ _____ **[3]**
    most

(b) Find the **sum** of the four fractions and identify an error the students have made.
Change **one** of the fractions to remove the error.

Error _____

Change fraction _____ to _____ **[2]**

4   Phil catches the bus to Huckfield School and back each day.

(a) This sign is next to the bus stop.

Huckfield School
6 ¼ miles

(i) Calculate the total distance Phil travels to school and back during one week (Monday to Friday).

(a)(i) _____ miles **[2]**

(ii) The bus travels at an average speed of 20 mph.

How long will the bus take to get Phil to school?
Give your answer in minutes and seconds.

(ii) _____ minutes _____ seconds **[4]**

(b) One day 65 students catch the bus.
$\frac{2}{5}$ of these students are boys.

How many of these students are **girls**?

(b) _____ **[3]**

(c) Phil did a survey about how students at Huckfield School get to school.
The table shows the probability of how a student, chosen at random, gets to school.

(i) Complete the table.

	Bus	Walk	Car	Other
Probability	0.4	0.33	0.15	

[2]

(ii) What is the probability that a student, chosen at random, will use either the bus or a car to get to school?

(c)(ii) _____ [2]

(iii) There are 2500 students in the school.

How many of them would you expect to come to school by car?

(iii) _____ [2]

5 **(a** Work out.

   (i) $\dfrac{5}{8} - \dfrac{1}{3}$

<div align="right">

(a)(i) _____ **[2]**

</div>

   (ii) $\dfrac{5}{6} \times 4$

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

<div align="right">

(ii) _____ **[3]**

</div>

(b) Work out the reciprocal of 0.25.

<div align="right">

(b) _____ **[1]**

</div>

6　Calculate.

　　(a)　$\dfrac{3}{4} - \dfrac{2}{5}$

　　　　　　　　　　　　　　　　　　　　　(a) _____ **[2]**

　　(b)　$\dfrac{3}{4} \div 5$

　　　　　　　　　　　　　　　　　　　　　(b) _____ **[2]**

7   Work out.

(a) $\dfrac{4}{5} - \dfrac{5}{8}$
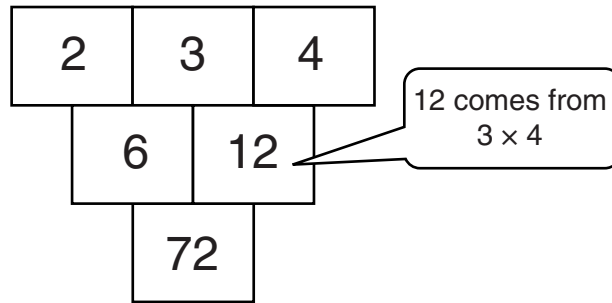
(a) _____ **[2]**

(b) $1\dfrac{3}{5} \times 1\dfrac{3}{4}$

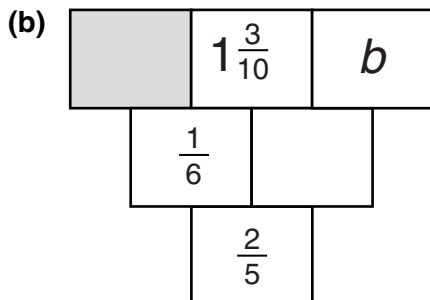Give your answer as a mixed number in its simplest form.

(b) _____ **[4]**

8   In these diagrams, the number in a box is worked out by multiplying together the two numbers immediately above it.
For example:

2	3	4

6	12

12 comes from 3×4

72

Calculate the missing numbers, represented by the letters a and b, in these diagrams.
Give any fractions in their simplest form.

(a)

$\frac{1}{6}$	$\frac{2}{5}$

a

(a) _____ **[2]**

(b)

	$1\frac{3}{10}$	b

$\frac{1}{6}$	

$\frac{2}{5}$
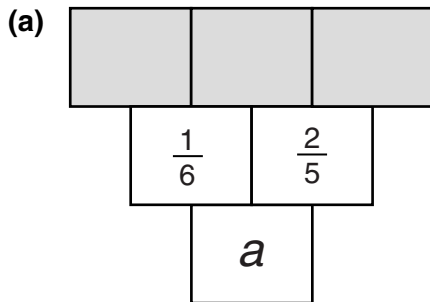
(b) _____ **[4]**

9 **(a** Work out $24 \div \frac{1}{3}$.

(a) _____ **[1]**

(b) Daffodil bulbs are sold in bags of 80.
Eddie and Caroline each bought one bag of bulbs.

(i) 32 of Eddie's bulbs did not grow.

What fraction of his 80 bulbs did not grow?
Write your answer in its simplest form.

(b)(i)_____**[2]**

(ii) $\frac{3}{5}$ of Caroline's bulbs produced white flowers.

How many of Caroline's bulbs produced white flowers?

(ii) _____ **[2]**

(c) Write the following fractions in order of size, smallest first.
Show how you decide.

$$\frac{3}{5} \qquad \frac{11}{15} \qquad \frac{2}{3} \qquad \frac{13}{20}$$

(c) _____ _____ _____ _____ **[4]**
smallest