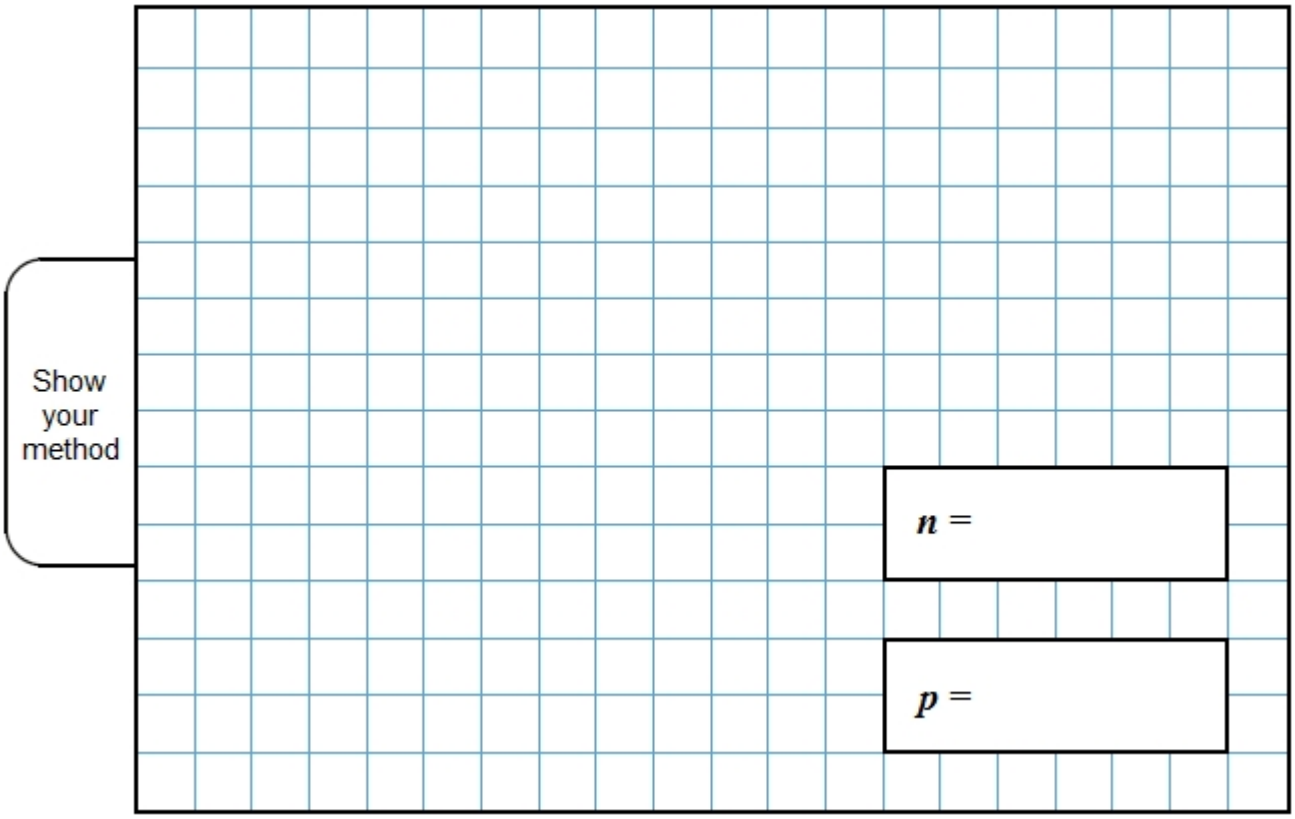
1. n and p stand for two numbers.

n is a multiple of 5
p is a multiple of 6

$$\frac{n}{p} = \frac{2}{3}$$

Find numbers that n and p stand for.

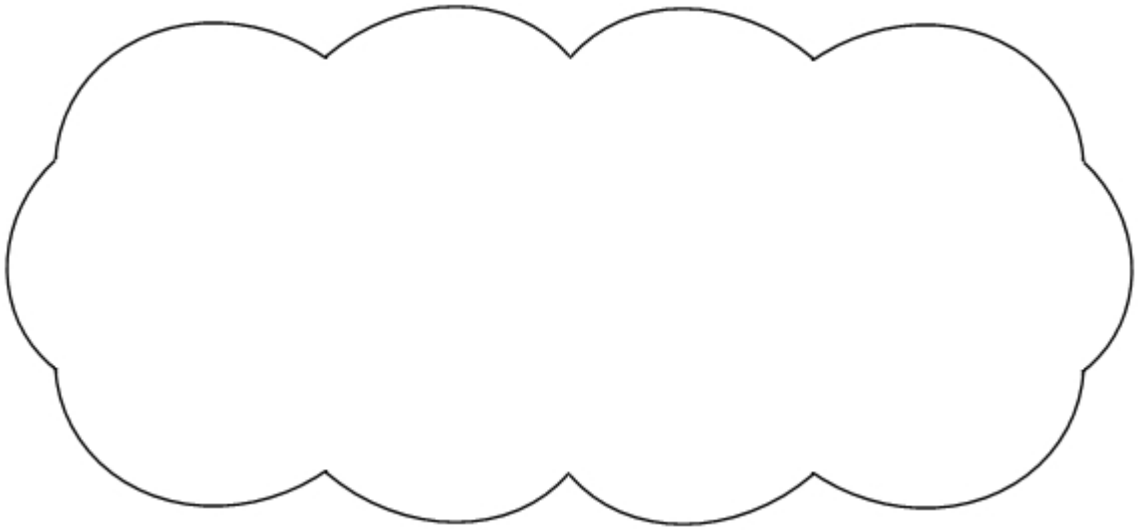


2 marks

2.

Anna says $\frac{4}{7}$ is greater than $\frac{5}{9}$

Explain why Anna is correct.

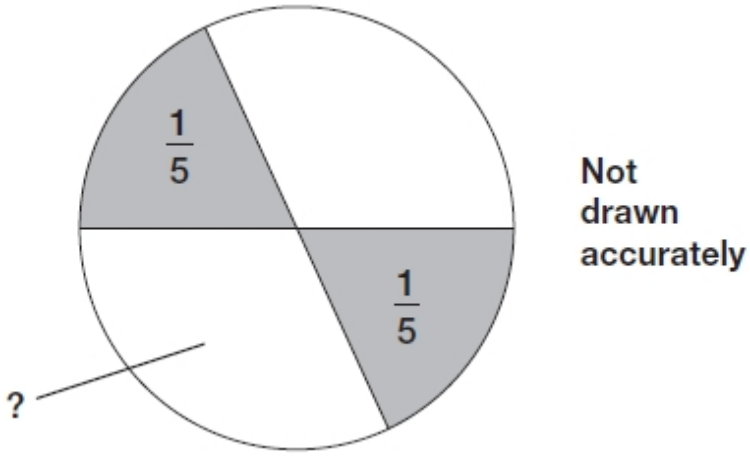


1 mark

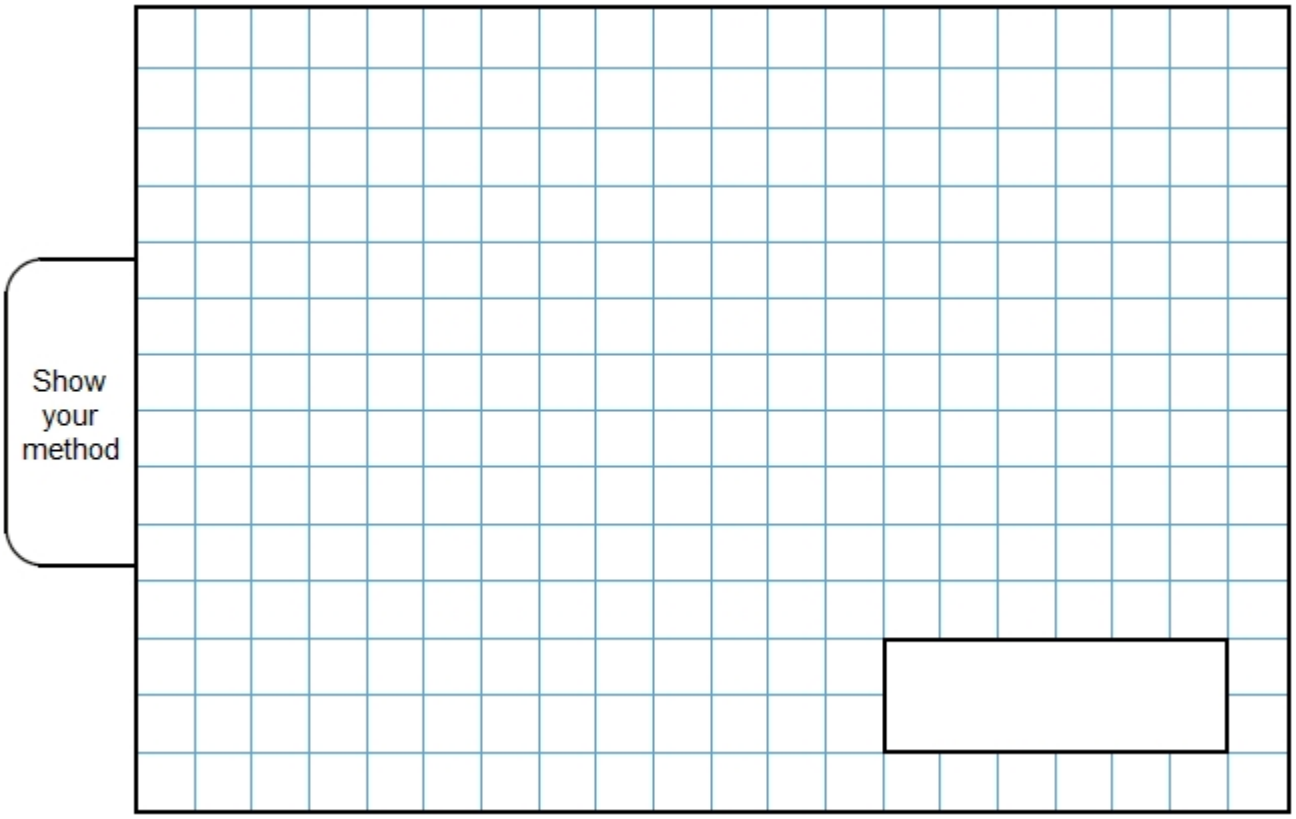
3.

In this circle, each shaded part is $\frac{1}{5}$ of the area of the circle.

The two white parts have equal areas.

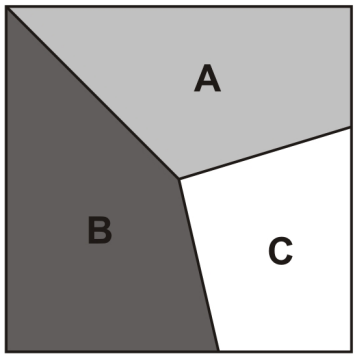


What fraction of the circle is **one** of the white areas?



2 marks

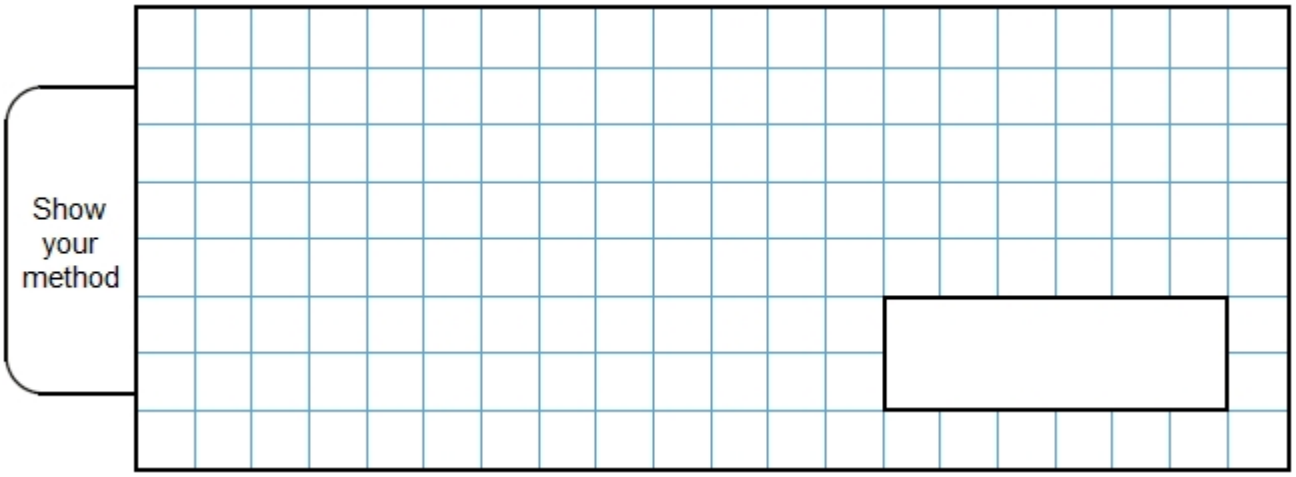
4. This square is divided into three parts.



Part **A** is $\frac{1}{3}$ of the area of the square.

Part **B** is $\frac{2}{5}$ of the area of the square.

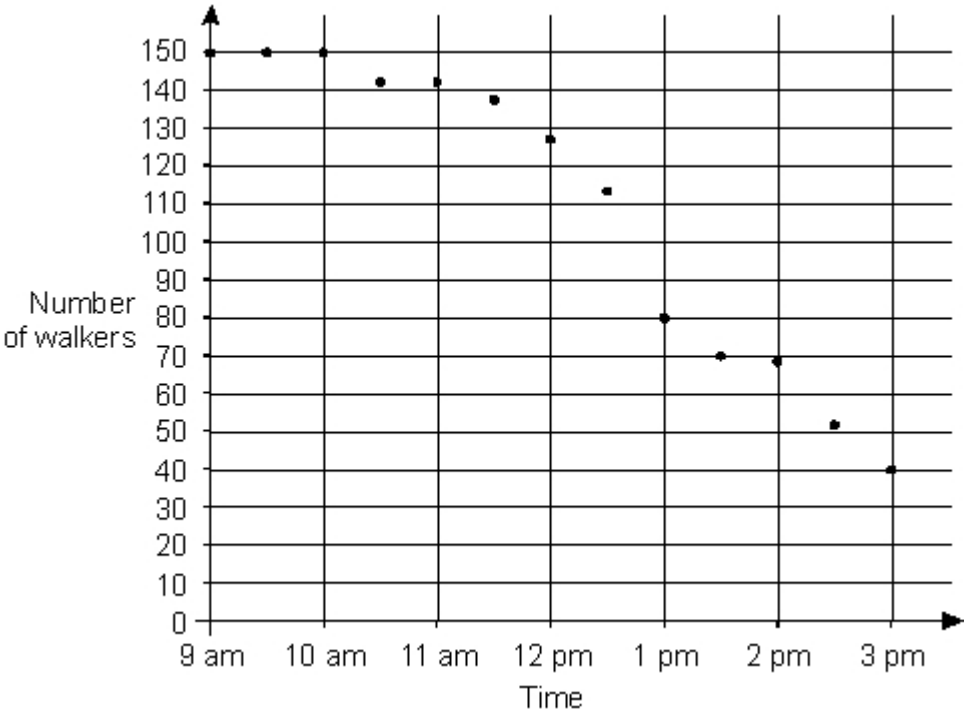
What fraction of the area of the square is part **C**?



2 marks

5. **150 people** take part in a walk.

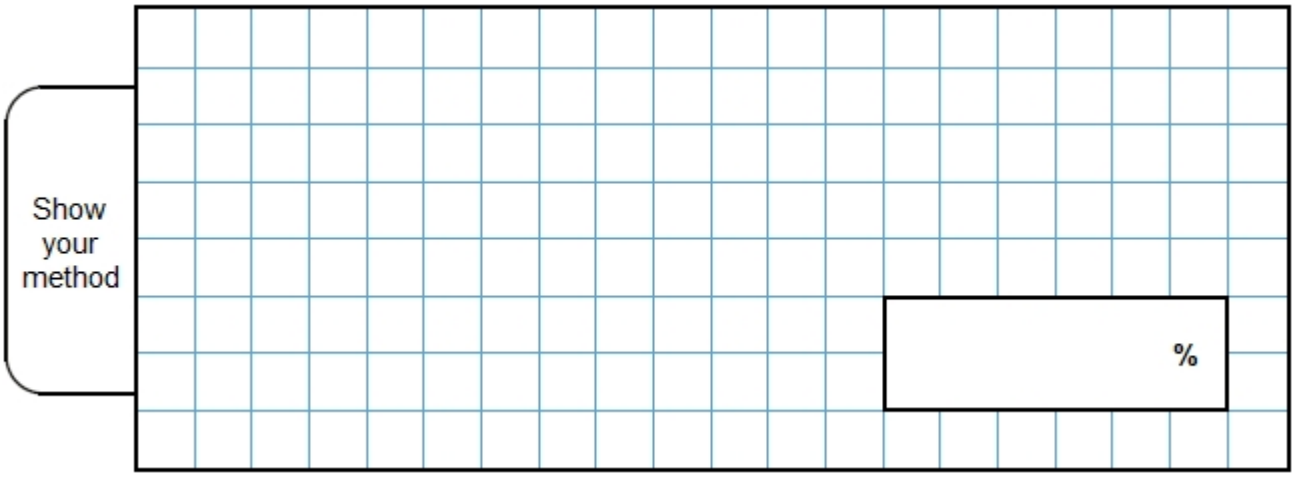
This chart shows the number of people still walking at different times.



Use the chart to estimate the **time** when **two-thirds of the people** are still on the walk.

1 mark

What **percentage** of the people who started are **still on the walk at 3pm**?



2 marks

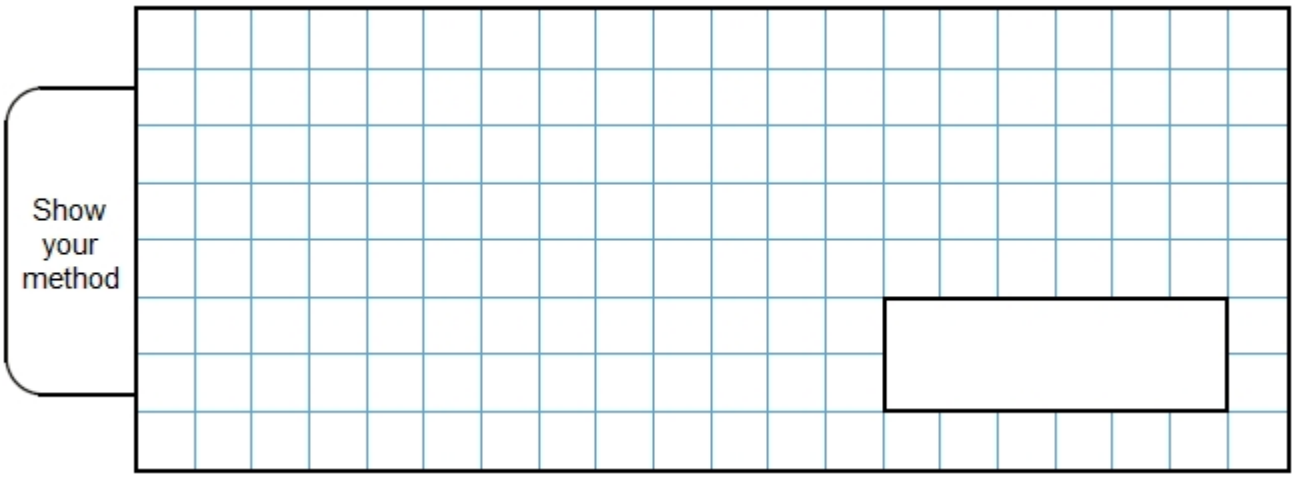
6. Lili and Julian each start with the **same** number.

Lili works out **half of the number**.

Julian works out **three-quarters of the number**.

The **sum** of their answers is **275**

What was the number they started with?



2 marks

7.

What fraction is **exactly** half-way between $\frac{3}{5}$ and $\frac{5}{7}$?

1 mark

8.

$\frac{5}{11} = 0.454545 ...$

Find a fraction that is equal in value to

$0.0454545 ...$

1 mark

9.


Daily News

12,500 visitors in 1995

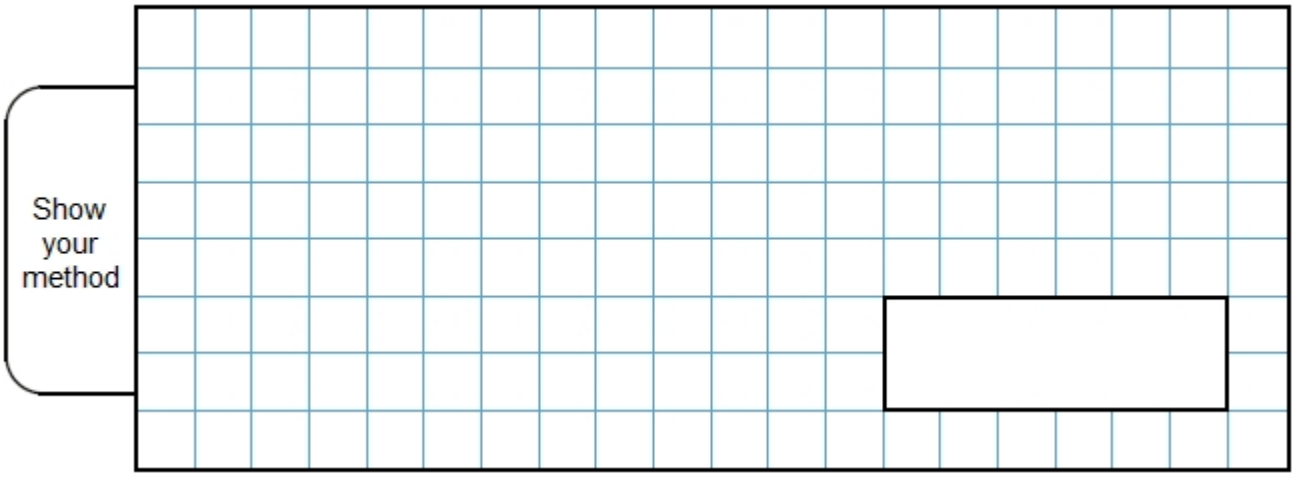
ATTENDANCES UP BY A QUARTER

museum

12 500 people visited the museum in 1995

This is an increase of a **quarter** on 1994

How many visitors were there in 1994?



2 marks

10. Place these numbers in order of size, starting with the **smallest.**

0.19	0.9	0.091	0.109
smallest			**largest**

1 mark

Place these fractions in order of size, starting with the **smallest.**

$\frac{1}{2}$	$\frac{1}{3}$	$\frac{5}{12}$	$\frac{5}{6}$
smallest			**largest**

1 mark

Mark schemes

1. Award marks as shown below for values of *n* and *p* which meet the following criteria:

	n:p	
	2:3	**3:2**
n is multiple of **5** **and** ***p*** is multiple of **6**	2 marks [A]	1 mark [C]
n is multiple of **5** **or** ***p*** is multiple of **6**	1 mark [B]	0 marks

The following examples are worth 2 marks:

- n = 20 **and** p = 30 [A]
- n = 80 **and** p = 120 [A]

! For 2m or 1m, accept multiple answers provided all meet the requirements for the mark(s) and are clearly distinguishable as separate answers, eg for 2 marks

- *n = 20, 40, 60*
  p = 30, 60, 90

2

or

The following examples are worth 1 mark:

- n = 5 and p = 7.5 [B]
- n = 10 and p = 15 [B]
- n = 4 and p = 6 [B]
- n = 90 and p = 60 [C]

OR

Shows or implies a method for rearranging $\frac{n}{p} = \frac{2}{3}$ which moves *p* from the denominator, eg:

- $3n = 2p$
- $n = \frac{2p}{3}$

OR

Shows or implies a complete correct method, eg:

- $2 \times 5 \times 6 : 3 \times 5 \times 6$

! For 1m, condone a list of at least five additional ratios or fractions equivalent to $\frac{2}{3}$ *with none incorrect*

1

[2]

2. Gives a correct explanation that converts the given fractions to decimals **or** fractions with a common denominator / numerator **or** percentages, eg:

- $\frac{4}{7} = \frac{36}{63}$ but $\frac{5}{9} = \frac{35}{63}$
- $0.57142\ldots > 0.55555$
- Because there is a $\frac{1}{63}$ difference between the two

For $\frac{4}{7}$ *accept:*

- *0.57(...)* ***or*** *57(. ...%)*

For $\frac{5}{9}$ *accept:*

- *0.56* ***or*** *0.55(...)* ***or*** *56(%)* ***or*** *55(. ...%)*

Accept minimally acceptable explanations, eg:

- $\frac{36}{63}$ $\frac{35}{63}$
- *0.56 0.57*

Do not accept *incomplete explanations that fail to convert both fractions to a common format, eg:*

- $\frac{4}{7}$ *is 0.57 so it is bigger*
- *9ths are smaller than 7ths and there is only one more 9th than 7th so* $\frac{4}{7}$ *is greater*

! Condone method of conversion incorrectly expressed in an otherwise correct explanation, eg:

- $\frac{4}{7} \times 9 = \frac{36}{63}$

[1]

3.

$\frac{3}{10}$ or equivalent

Accept equivalent fractions, decimals or percentages

2

or

Shows or implies a complete correct method and no conceptual errors, eg:

- Shaded fraction is $\frac{1}{5} + \frac{1}{5} = \frac{2}{5}$

  Fraction of total white area = $1 - \frac{2}{5} = \frac{3}{5}$

  $\frac{3}{5} \div 2$

- $\frac{1}{5} + \frac{1}{5}$ = 20% + 20% = 30% *(error)*

  White area = 70%

  Each white area = 35%

  ! 30 with no % sign

  Accept for 1m as evidence of a correct method

  ! $\frac{1.5}{5}$ ***or*** $\frac{1\frac{1}{2}}{5}$

  Accept for 1 as evidence of a correct method

  (incorrect notation for $\frac{3}{5} \div 2$*)*

  Do not accept *conceptual errors seen, eg:*

  - $\frac{1}{5} + \frac{1}{5} = \frac{2}{10}$
  - $\frac{1}{5} + \frac{1}{5}$ *= 5% + 5% = 10%*
  - $\frac{6}{10} \div 2 = \frac{3}{5}$

1

[2]

4. Award **TWO** marks for the correct answer of $\frac{4}{15}$

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

$\frac{1}{3} = \frac{5}{15}$

$\frac{2}{5} = \frac{6}{15}$

$C = \frac{15 - 5 - 6}{15}$

Answer need not be obtained for the award of the mark.

Up to 2

[2]

5. (a) Answer in the range 12:30pm to 1:00pm exclusive.

Accept answers with or without 'pm'.

1

(b) Award **TWO** marks for the correct answer of $26\frac{2}{3}$ % **OR** 26.6%

*Accept 26.6% **OR** 26.7% **OR** 26.6 ... % **OR** 27%*

*Accept for **ONE** mark 26%*

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

40 ÷ 150 × 100

Answer need not be obtained for the award of the mark.

Up to 2

[3]

6. Award **TWO** marks for the correct answer of 220

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

275 ÷ 5 × 4

Answer need not be obtained for the award of the mark.

Up to 2

[2]

7. $\frac{23}{35}$

Accept equivalent fractions.

[1]

8. $\frac{1}{22}$ **OR** $\frac{5}{110}$

Accept equivalent fractions.

***Do not** accept* $\frac{0.5}{11}$

[1]

9. Award **TWO** marks for the correct answer of 10 000

If answer is incorrect, award **ONE** mark for evidence of an appropriate strategy, eg:

- 12500 ÷ 5 × 4

Up to 2

[2]

10. (a) 0.091 | 0.109 | 0.19 | 0.9

All four numbers in their correct places.

1

(b) 1/3 | 5/12 | 1/2 | 5/6

All four numbers in their correct places.

1

[2]