

Q1.

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.

Show
your
method

$n =$

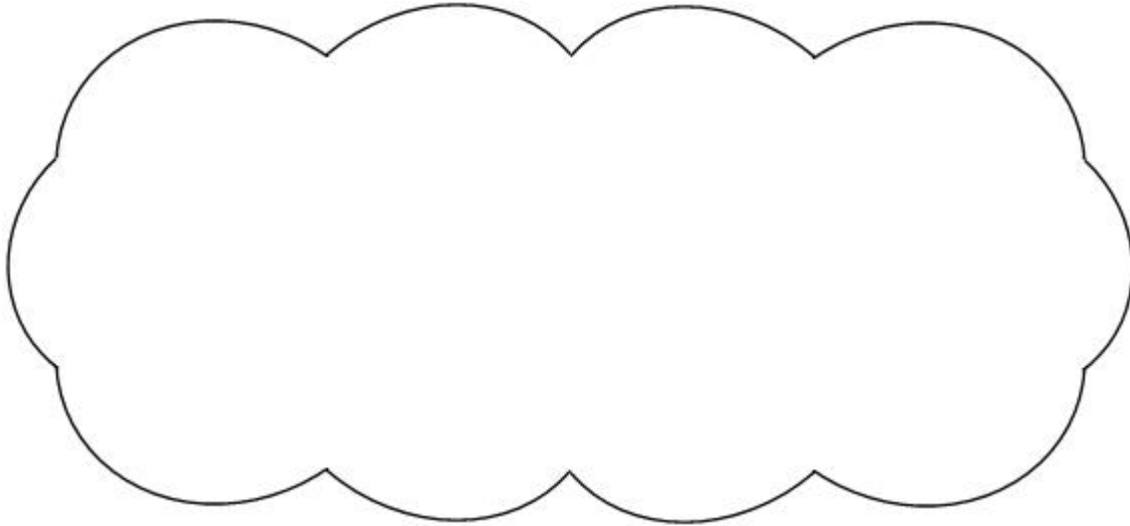
$p =$

2 marks

Q2.

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

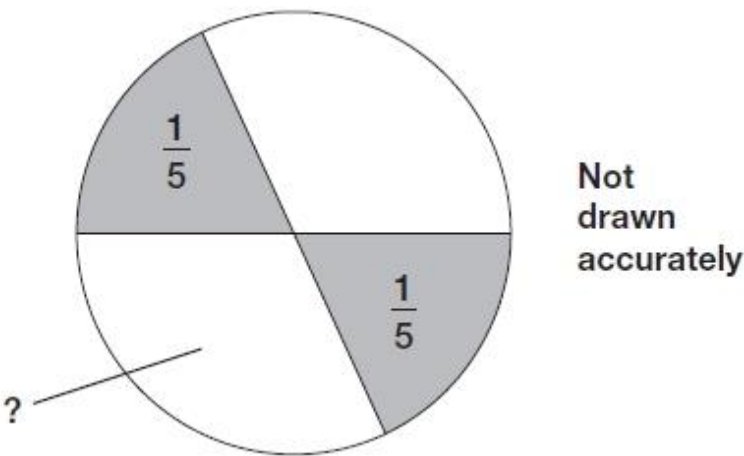
Explain why Anna is correct.



1 mark

Q3.

In this circle, each shaded part is $\frac{1}{5}$ of the area of the circle.
The two white parts have equal areas.



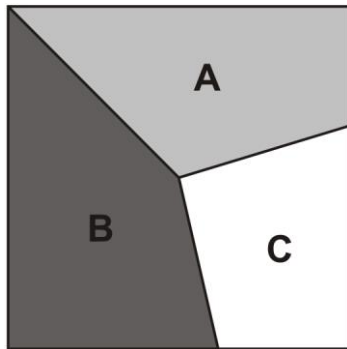
What fraction of the circle is **one** of the white areas?

Show your method

2 marks

Q4.

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**?

Show your method

2 marks

Q5.

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?

Show your method

2 marks

Q6.

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

2

1 mark

Q7.

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

Find a fraction that is equal in value to

0.0454545 ...

1 mark

Q8.

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

0.19

smallest

0.9

0.091

0.109

largest

1 mark

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

$\frac{1}{2}$

smallest

$\frac{1}{3}$

$\frac{5}{12}$

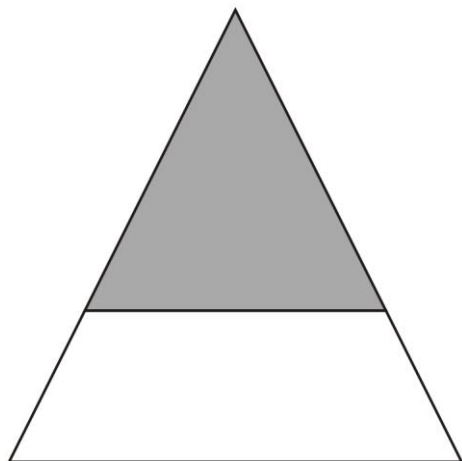
$\frac{5}{6}$

largest

1 mark

Q9.

The diagram shows a shaded triangle inside a larger triangle.



The area of the **shaded** triangle is 52 cm².

The area of the shaded triangle is $\frac{4}{9}$ of the area of the larger triangle.

Calculate the **area** of the **larger** triangle.

Show your method

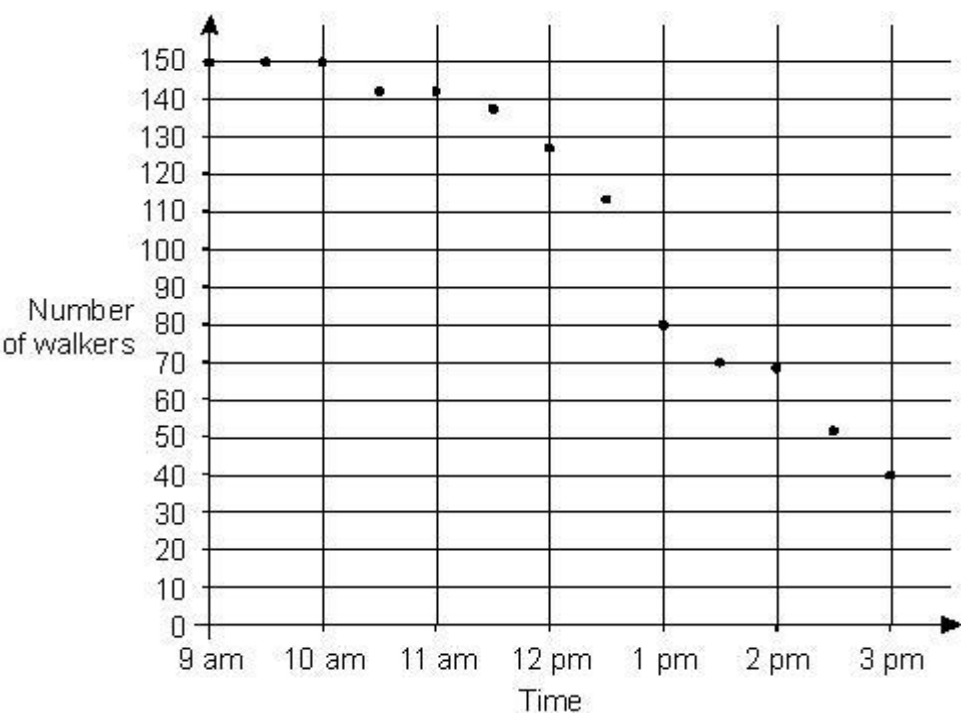
cm

2 mark

Q10.

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**?

Show your method

2 marks

Mark schemes

Q1.

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

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

Shows or implies a method for rearranging 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]

Q2.

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 $\frac{5}{9} = \frac{35}{63}$
- $0.57142... > 0.55555$
- Because there is a $\frac{1}{63}$ difference between the two

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

- $0.57(...)$ **or** $57(. \dots\%)$

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

- 0.56 **or** $0.55(...)$ **or** $56(\%)$ **or** $55(. \dots\%)$

Accept minimally acceptable explanations, eg:

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

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]

Q3.

$\frac{3}{10}$ 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 $\frac{1}{5} + \frac{1}{5} = \frac{2}{5}$

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

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

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

White area = 70%

Each white area = 35%

! 30 with no % sign

Accept for 1m as evidence of a correct method

$$\frac{1.5}{5} \text{ or } 1\frac{1}{2}$$

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]

Q4.

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]

Q5.

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

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

$$275 \div 5 \times 4$$

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

Up to 2

[2]

Q6.

$$\frac{23}{35}$$

Accept equivalent fractions.

[1]

Q7.

$$\frac{1}{22} \text{ OR } \frac{5}{110}$$

Accept equivalent fractions.

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

[1]

Q8.

(a)

All four numbers in their correct places.

1

(b)

All four numbers in their correct places.

1

[2]

Q9.

Award **TWO** marks for the correct answer of 117.

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

$$52 \div 4 = 13 \text{ AND } 9 \times 13$$

OR $\frac{4}{9} = 0.444 \text{ AND } 52 \div 0.444$

Calculation need not be completed for the award of the mark.

Up to 2

[2]

Q10.

- (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

$$40 \div 150 \times 100$$

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

Up to 2

[3]