Pearson Edexcel Level 1/Level 2 GCSE (9 – 1)

Mathematics

Paper 1 (Non-calculator)
Common questions: Foundation/Higher tier

Mock Paper Set 2
Spring 2017

You must have:
Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Instructions

- Use **black** ink or ball-point pen.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need*.
- **Calculators must not be used.**
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must **show all your working out**.

Information

- The total mark for this paper is 27
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question*.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Ali and Beth divide £280 in the ratio 2 : 5
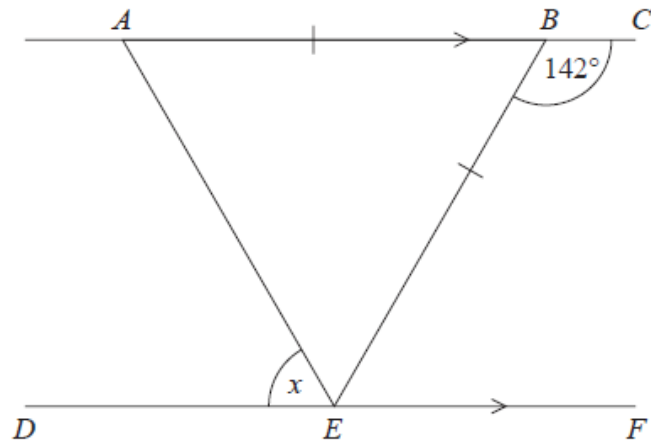
    Work out how much each person gets.

    Ali £ ....

    Beth £ ....
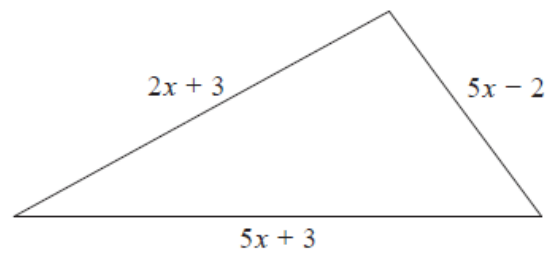
    (Total for Question 1 is 2 marks)

2.

ABC and *DEF* are parallel straight lines.
ABE is an isosceles triangle with *AB = BE*.
Angle *CBE* = 142°

Work out the size of angle *x*.
Give a reason for each stage in your working.

....°

(Total for Question 2 is 5 marks)

3. The perimeter of a square has the same length as the perimeter of this triangle.
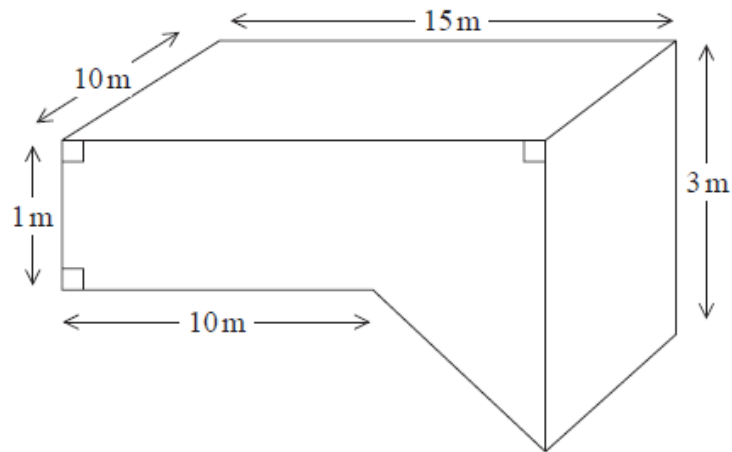

$2x + 3$

$5x - 2$

$5x + 3$

Clip 552

All measurements are in centimetres.

Find an expression, in terms of x, for the length of a side of the square.
Give your answer in its simplest form.

....

(Total for Question 3 is 3 marks)

4.

The diagram shows a swimming pool.
The swimming pool is in the shape of a prism.
The swimming pool is filled with water at a rate of 5 litres per second.

Jeremy has 10 hours to fill the swimming pool.
1 m³ = 1000 litres.

Will he completely fill the swimming pool in 10 hours?
You must show all your working.

<div align="right">(Total for Question 4 is 5 marks)</div>

5. It takes 12 men 5 days to complete a job.

(a) Work out how many days it would take 3 men to complete the same job.

....

(2)

(b) (i) State one assumption you made in working out your answer.

....

(ii) How will your answer be affected if your assumption is **not** correct?

....

....
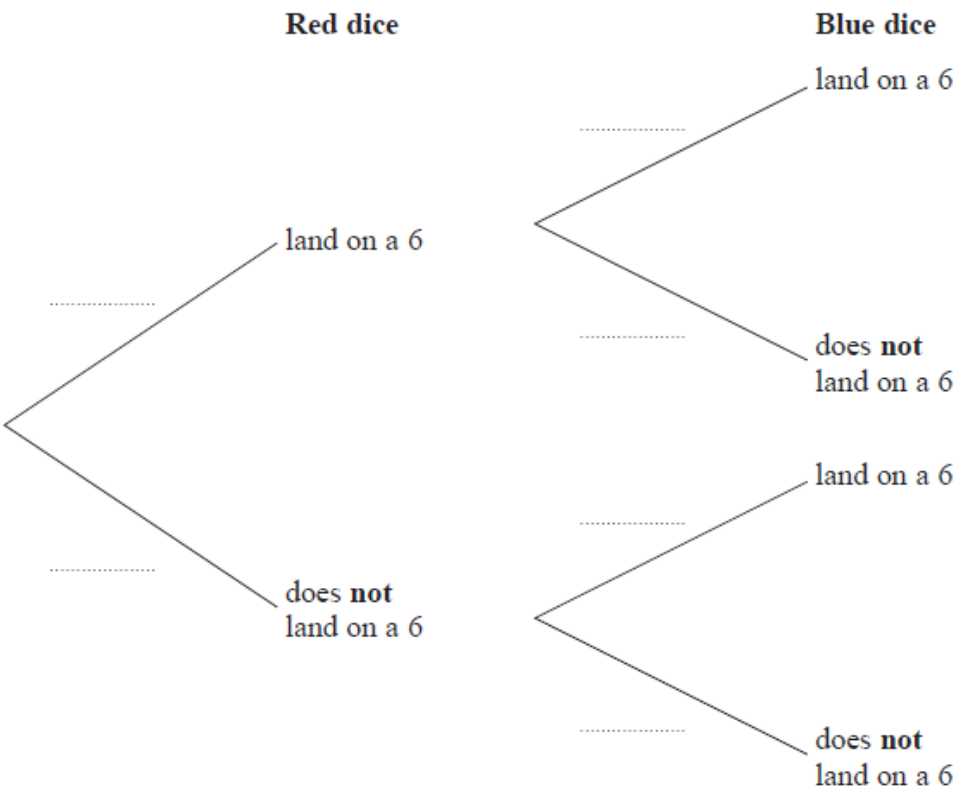
(2)

(Total for Question 5 is 4 marks)

6

6. Graham has a fair red 6-sided dice and a fair blue 8-sided dice.
The red dice can land on 1, 2, 3, 4, 5 or 6
The blue dice can land on 1, 2, 3, 4, 5, 6, 7 or 8

Graham is going to roll both dice.

(a) Complete the probability tree diagram.

Red dice   **Blue dice**

land on a 6

land on a 6

does **not**
land on a 6

land on a 6

does **not**
land on a 6

does **not**
land on a 6

(2)

(b) Work out the probability that neither dice will land on a 6

....
(2)

(Total for Question 6 is 4 marks)

TOTAL FOR PAPER IS 23 MARKS

Mark scheme

Question 1 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$280 \div (2 + 5) = 40$	M1	This mark is given for a method to find the amount of money represented by one part
	$40 \times 2 = 80$ (Ali); $40 \times 5 = 200$ (Beth)	A1	This mark is given for the correct answer only

Question 2 (Total 5 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$ABE = 180° - 142° = 38°$	M1	This mark is given for a method to find one angle
	Angles on a straight line add up to 180°	C1	This communication mark is given for a correct statement allied to the calculation made
	$BAE = 71°$	M1	This mark is given for a method to find further angle(s)
	Base angles of an isosceles triangle are equal Angles in a triangle add up to 180°	C1	This communication mark is given for a correct statement allied to the calculation made
	$BAE = AED = x = 71°$ Alternate angles are equal	A1	This mark is given for the correct answer only with a correct supporting statement

NB: There are other ways to arrive at the solution for this question.

Question 3 (Total 3 marks)

Part	Working an or answer examiner might expect to see	Mark	Notes
	$2x + 3 + 5x - 2 + 5x + 3 =$	P1	This mark is given for stating the perimeter algebraically
	$\dfrac{12x + 4}{4} =$	P1	This mark is given for a process to simplify to $12x + 4$ and divide by 4
	$3x + 1$	A1	This mark is given for the correct answer only

Question 4 (Total 5 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$(\frac{1}{2} \times 2 \times 5) + (1 \times 15) = 20$ (m^2)	P1	This mark is given for a process to find the volume by finding the complete cross-sectional area
	20 (m^2) $\times$ 10 (m) = 200 m^3	P1	This mark is given for a process to find the volume of the pool
	200 m^3 = 200 000 litres	P1	This mark is given for a process to convert between m^3 and litres.
	$\dfrac{200\ 000}{5} = 40\ 000$ seconds	A1	This accuracy mark is given for finding out the time taken to fill the pool
	10 hours = 36 000 seconds 10 hours is not enough time to fill the pool	C1	This communication mark is given for a correct statement with correct supporting figures

Question 5 (Total 4 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$\dfrac{12}{3} \times 5 =$	M1	This mark is given for a method to find proportion statement
	20	A1	This mark is given for the correct answer only
(b) (i)	The work rate of each man is the same; The work rate of each man does not change over time	C1	This communication mark is given for a correct statement
(ii)	If the work rate slower it takes longer; If the work rate faster takes less time	C1	This communication mark is given for a correct statement

Question 6 (Total 4 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$\dfrac{1}{6}$ and $\dfrac{5}{6}$ on left hand branches	B1	This mark is given for the correct answers only,
	$\dfrac{1}{8}$, $\dfrac{7}{8}$, $\dfrac{1}{8}$ and $\dfrac{7}{8}$ on right hand branches	B1	This mark is given for the correct answers only
(b)	$\dfrac{5}{6} \times \dfrac{7}{8} =$	M1	This mark is given for a method to find the probability that neither dice will land on 6
	$\dfrac{35}{48}$	A1	This mark is given for the correct answer only