Paper Reference(s)

Edexcel GCSE

Mathematics

Unit 3 – Section A (Calculator)

Foundation Tier

Specimen Terminal Paper

Time: 1 hour

Materials required for examination	**Items included with question papers**
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.	Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
You must NOT write on the formulae page. Anything you write on the formulae page will gain NO credit.
If you need more space to complete your answer to any question, use additional answer sheets.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 17 questions in this question paper. The total mark for this paper is 60.
There are 16 pages in this question paper. Any blank pages are indicated.
Calculators may be used.
If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Advice to Candidates

Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
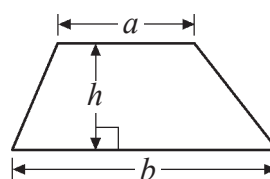Return at the end to those you have left out.

Turn over

edexcel
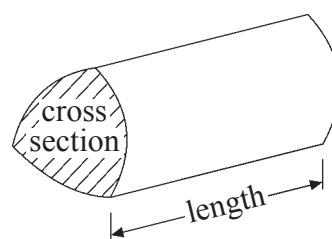advancing learning, changing lives

Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Area of trapezium = $\frac{1}{2}(a+b)h$

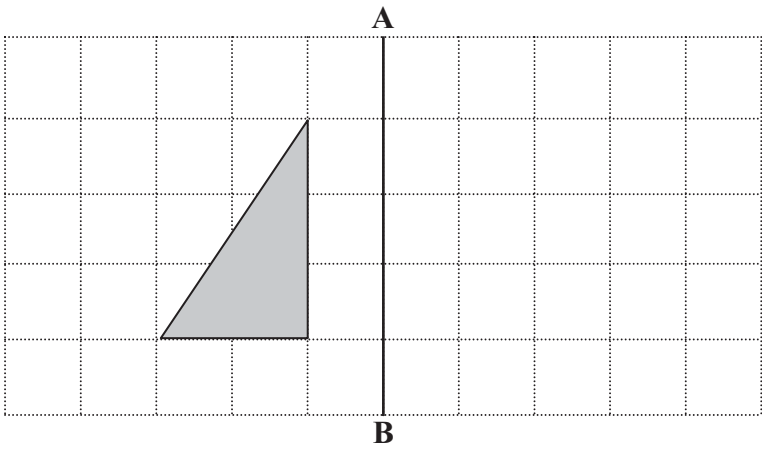**Volume of prism** = area of cross section × length

Answer ALL SEVENTEEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1.

(a) Reflect the shaded triangle in the line **AB**.

(1)
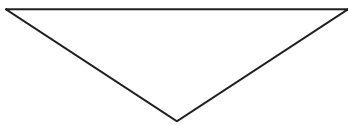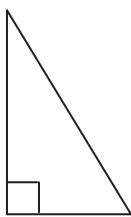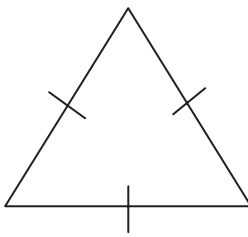
P   Q   R

(b) (i)   Draw a line of symmetry on triangle **P**.

(ii) Write down the mathematical name for triangle **Q**.

.... triangle

(iii) Write down the mathematical name for triangle **R**.

.... triangle

(3)

Q1

(Total 4 marks)

2. Here are two readings from a gas meter.

0	1	9	6	2

January

0	2	1	5	9

April

The difference in the meter readings gives the number of units of gas used.

The cost of each unit of gas is 21p.

Work out the cost of the gas used between January and April.
Give your answer in pounds (£).

£ ....

(Total 4 marks)

Q2

3.   **Two** of these triangles are congruent.

(a) Write down the letters of the two triangles that are congruent.

.........................., ...
(1)

(b) On the grid draw a shape that is congruent to shape **Y**.

(1)   Q3

(Total 2 marks)

4. This triangle is accurately drawn.
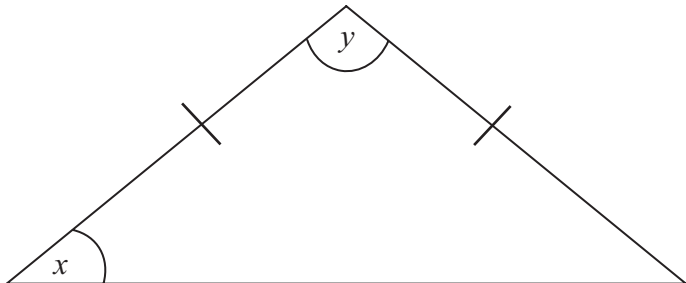
(a) Write down the special name for this type of triangle.

....
(1)

(b) What type of angle is angle x?

....
(1)

(c) What type of angle is angle y?

....
(1)

(Total 3 marks)

Q4

5. John used this formula to work out his overtime pay.

| overtime pay = overtime rate × number of hours overtime worked |

John's overtime rate was £7.20 per hour.
He worked 8 hours overtime.

(a) Work out his overtime pay.

£ ....
(2)

John used this formula to work out his total pay.

| total pay = basic pay + overtime pay |

John's basic pay was £234

(b) Work out his total pay.

£ ....
(1)

(Total 3 marks)

Q5

6. Here is a conversion graph for changing between kilograms and pounds.
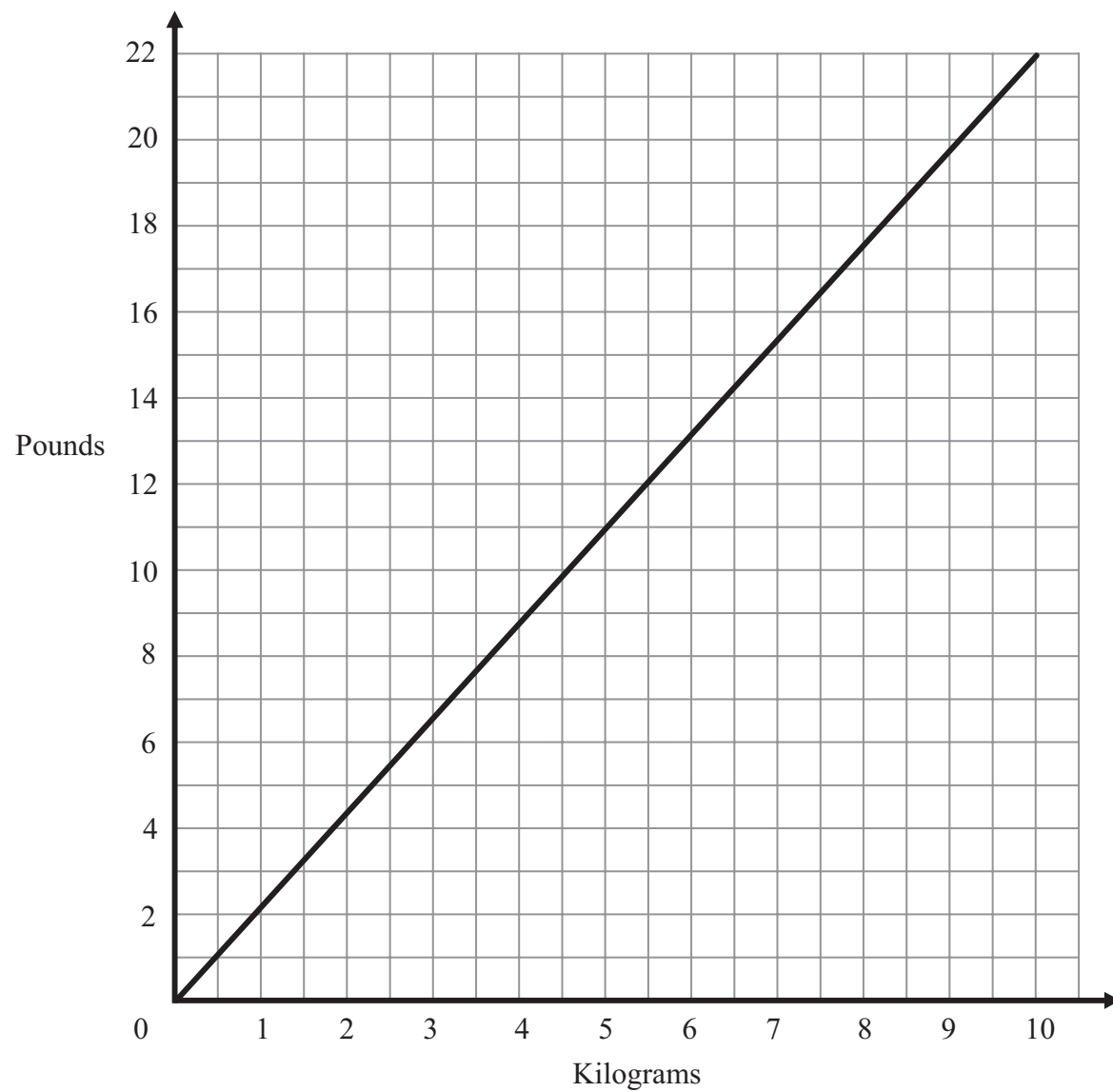
(a) Use the graph to change 22 pounds to kilograms.

.... kg
(1)

(b) Use the graph to change 2.5 kilograms to pounds.

.... pounds
(1)

Fabio weighs 110 pounds.

(c) Change 110 pounds to kilograms.

.... kg
(2)

(Total 4 marks)

7. Write these numbers in order of size.
Start with the smallest number.

22% $\dfrac{1}{5}$ 0.3 $\dfrac{2}{7}$

....

(Total 3 marks)

8. Simplify

(i) $2c + 3c + 4c$

....

(ii) $f \times g \times 3$

....

(iii) $x^2 + x^2 + x^2$

....

(Total 3 marks)

9. (a) Use your calculator to work out

$5.2 + \sqrt{7.84}$

....
(2)

(b) Make h the subject of the formula

$f = g + 3h$

(2)

(Total 4 marks)

Q9

10.

The scale diagram shows a man and a dinosaur.

The man is 6 feet tall.

Estimate the height of the dinosaur:

(i) in feet,

.... feet

(ii) in metres.

.... metres

(Total 4 marks)

11.

Diagram **NOT** accurately drawn
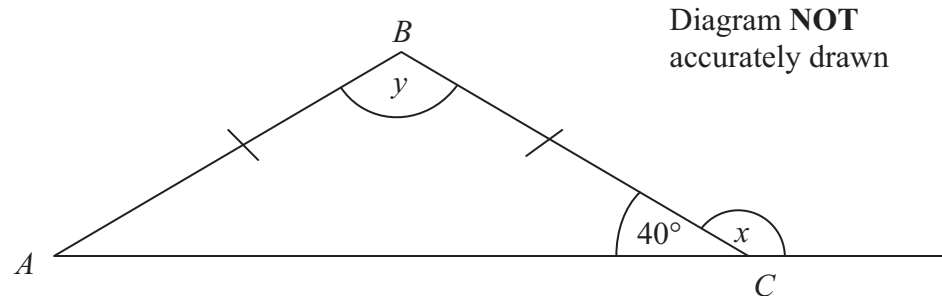
In triangle *ABC*,
AB = *BC*,
Angle *ACB* = 40°

(a) (i) Work out the size of angle *x*.

.... °

(ii) Give a reason for your answer.

....

....

(2)

(b) (i) Work out the size of angle *y*.

.... °

(ii) Give a reason for your answer.

....

....

(3)   Q11

(Total 5 marks)

12. A group of students visited the USA.
A student bought a pair of sunglasses in the USA.
He paid $35.50

In England, an identical pair of sunglasses costs £26.99
The exchange rate was £1 = $1.42

(a) In which country were the sunglasses cheaper?

....
(2)

(b) How much cheaper?

....
(2) Q12

(Total 4 marks)

13. Here is a list of ingredients for making some Greek food for **6** people.

2 cloves of garlic
4 ounces of chick peas
4 tablespoons of olive oil
5 fluid ounces of Tahina paste

Work out the amount of ingredients to make the Greek food for **9** people.

.... cloves of garlic

.... ounces of chick peas

.... tablespoons of olive oil

.... fluid ounces of Tahina paste   Q13

(Total 2 marks)

14.

Tigers Club   Cheetahs Club

Admission:
£2.40
Special offer
20% off

Admission:
£2.70
Special offer
$\frac{1}{3}$ off

It normally costs £ 2.40 to get into the Tigers Club but there is 20% off the price.

It normally costs £ 2.70 to get into the Cheetahs Club but there is $\frac{1}{3}$ off the price.

Which club is cheaper?
You **must** show all your working with your answer.

....

Q14

(Total 4 marks)

15. The heat setting number of a gas oven is called its Gas Mark.
This rule may be used to change a Gas Mark to a temperature in °C.

$$\boxed{\text{Gas Mark} \rightarrow \times\ 14 \rightarrow +\ 121 \rightarrow \text{Temperature in °C}}$$

(a) Use the rule to change Gas Mark 7 to a temperature in °C.

.................................°C

(2)

(b) Complete the formula for T, the temperature in °C, in terms of G, the Gas Mark.

$T =$ ....

(2)

(Total 4 marks)

Q15

16. Solve $4(y + 3) = 6$

....

(Total 3 marks)

Q16

17. The equation

$$x^3 + x = 37$$

has a solution between 3 and 4
Use a trial and improvement method to find this solution.
Give your answer correct to one decimal place.
You must show **ALL** your working.

$x =$ ....

Q17

(Total 4 marks)

TOTAL FOR SECTION A: 60 MARKS

END