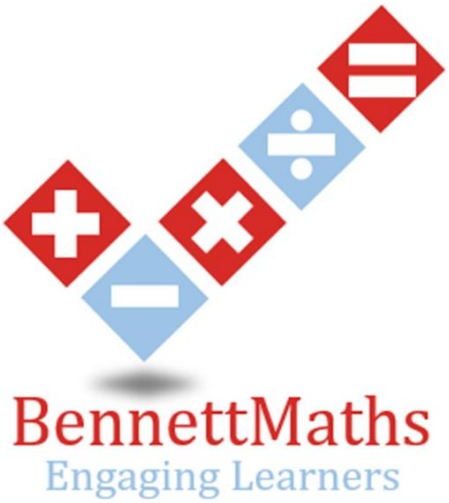


Name: _____

BennettMaths Edexcel 3F – Part 3

21 Jenny wants to know how many sandwiches she will need for 550 people at a meeting.

Each person who eats sandwiches will eat 3 sandwiches.
2 slices of bread are needed for each sandwich.

Jenny assumes 76% of the people will eat sandwiches.

(*a*) Using this assumption, work out the number of slices of bread Jenny needs.
Give your answer correct to the nearest hundred slices.

..... slices

(4)

Jenny's assumption is wrong.
68% of the people will eat sandwiches.

(*b*) How does this affect your answer to part (*a*)?

.....

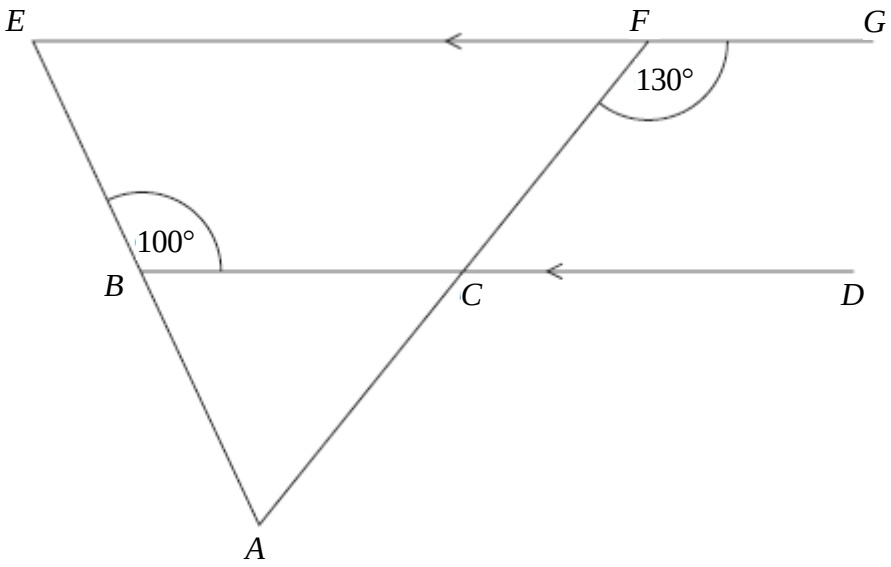
.....

.....

(1)

(Total for Question 21 is 5 marks)

22 *ACF* and *ABE* are straight lines.
EFG and *BCD* are parallel lines.



Show that triangle *ABC* is isosceles.
Give a reason for each stage of your working.

(Total for Question 22 is 5 marks)

23 It takes 24 hours for 9 identical pumps to fill a swimming pool.

How many hours would it take 15 of these pumps to fill another swimming pool of the same size?

..... hours

(Total for Question 23 is 2 marks)

24 P and Q are numbers such that

$$P = 2^3 \times 3^5 \times 5$$
$$Q = 3^2 \times 5^3$$

(*a*) Find the highest common factor (HCF) of P and Q.

.....

(1)

(*b*) Find the lowest common multiple (LCM) of P and Q.

.....

(2)

(Total for Question 24 is 3 marks)

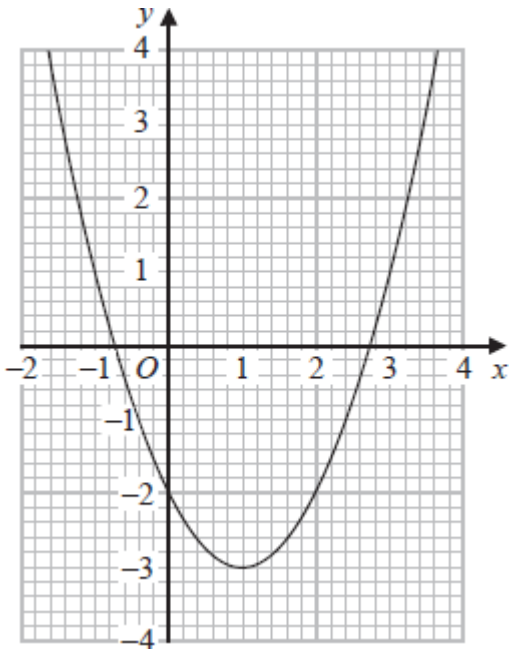
25 Sludge leaks from a pipe at a constant rate of 8.7 m^3/s

How many hours does it take for 98 310 m^3 of sludge to leak from the pipe?
Give your answer correct to the nearest hour.

..... hours

(Total for Question 25 is 3 marks)

26 Here is the graph of $y = x^2 - 2x - 2$



(*a*) Write down the coordinates of the turning point on the graph of $y = x^2 - 2x - 2$

(..... , ...)

(1)

(*b*) Write down an estimate for one of the roots of $x^2 - 2x - 2 = -2$

.....

(1)

(Total for Question 26 is 2 marks)

27 A solid cube is made of stone.

The stone has a density of 3.5 g/cm^3
The volume of the cube is 216 cm^3

Work out the mass of the cube.

..... g

(Total for Question 27 is 2 marks)

---

28 (*a*) Write $(2.5 \times 10^3) : (7.5 \times 10^4)$ in the form 1 : *n* where *n* is an integer.

.....

(2)

(*b*) Write the following numbers in order of size.
Start with the smallest number.

6125 $\quad$ $612\,500 \times 10^{-4}$ $\quad$ 6.125×10^5 $\quad$ $0.006\,125 \times 10^3$

.....

(2)

(Total for Question 28 is 4 marks)
