

A different sequence of patterns is made from triangles.
The rule to find the number of triangles in each pattern is

multiply the Pattern number by 5 and subtract 4

- (e) Is there a pattern in this sequence that is made from exactly 136 triangles?
You must give a reason for your answer.

(1)

(Total for Question 9 is 6 marks)

- 10** Here are four different numbers written in order of size.

3 6 m n

The range of the four numbers is 13
The median of the four numbers is 8.5

Find the value of m and the value of n .

$m =$

$n =$

(Total for Question 10 is 2 marks)



11

1 euro = 9.3 Hong Kong dollars (HKD)

1 euro = 4.4 dirham (AED)

(a) Change 400 euros to Hong Kong dollars.

..... HKD
(1)

(b) Change 418 dirham to euros.

..... euros
(1)

(c) Change 651 Hong Kong dollars to dirham.

..... AED
(2)

(Total for Question 11 is 4 marks)

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12 (a) Simplify $k + k + k + k$

.....
(1)

$$f = 9 \times 9 \times 9 \times 9$$

(b) (i) Write f as a single power of 9

.....

(ii) Write f as a single power of 3

.....
(2)

(c) Write $5^{17} \times 5^2$ as a single power of 5

.....
(1)

(d) Write 800 as a product of its prime factors.
Show your working clearly.

.....
(2)

(Total for Question 12 is 6 marks)



13 Betsy was given \$75 for her birthday.

She saved some of the money and spent the rest on a T-shirt and a bag.

Betsy saved 40% of the \$75

She spent \$12 more on the bag than she spent on the T-shirt.

Work out how much Betsy spent on the bag.

\$.....

(Total for Question 13 is 4 marks)

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14 Iona buys a box of cereal.

The cereal in the box weighs 0.75 kg.
Each helping of the cereal eaten by Iona has a weight of 40 g.

- (a) Write 40 g as a fraction of 0.75 kg.
Give your answer in its simplest form.

.....
(2)

The cereal in the box contains 6.8 g of protein for each 100 g of cereal.

- (b) Work out the amount of protein in each of Iona's helpings of cereal.

..... g
(2)

3 g of every 40 g helping of cereal is fat.

- (c) Write 3 g as a percentage of 40 g.

..... %
(2)

(Total for Question 14 is 6 marks)



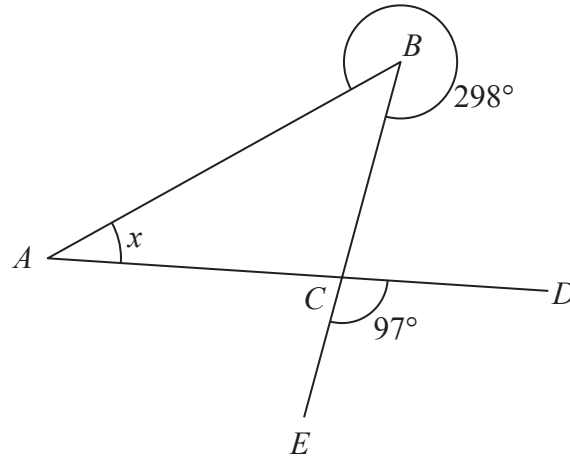


Diagram **NOT** accurately drawn

ABC is a triangle.

D and E are points such that ACD and BCE are straight lines.

reflex angle $ABC = 298^\circ$

angle $ECD = 97^\circ$

Work out the size of angle x .

Give a reason for each stage of your working.

$x = \dots\dots\dots^\circ$

(Total for Question 15 is 4 marks)

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16 The table gives information about the amount of money, in £, that Fiona spent in a grocery store each week during 2019

| Amount spent (£ x) | Frequency |
|-----------------------|-----------|
| $0 \leq x < 20$ | 5 |
| $20 \leq x < 40$ | 11 |
| $40 \leq x < 60$ | 8 |
| $60 \leq x < 80$ | 19 |
| $80 \leq x < 100$ | 9 |

Work out an estimate for the total amount of money that Fiona spent in the grocery store during 2019

£.....

(Total for Question 16 is 3 marks)

