

17 Three tins, A , B and C , each contain buttons.

Tin A contains x buttons.

Tin B contains 4 times the number of buttons that tin A contains.

Tin C contains 7 fewer buttons than tin A .

The total number of buttons in the three tins is 137

Work out the number of buttons in tin C .

.....
(Total for Question 17 is 4 marks)

18 (a) Expand $e(3e - 5)$

.....
(1)

(b) Factorise $35 + 5f$

.....
(1)

(c) Simplify $(4pq^2)^3$

.....
(2)

(Total for Question 18 is 4 marks)



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19 The diagram shows a rectangle and a diagonal of the rectangle.

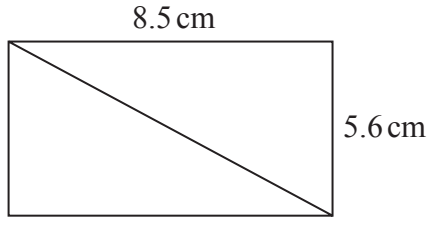


Diagram **NOT** accurately drawn

Work out the length of the diagonal of the rectangle.
Give your answer correct to 1 decimal place.

..... cm

(Total for Question 19 is 3 marks)

20 A plane takes 3 hours 36 minutes to fly from the Cayman Islands to New York.
The plane flies a distance of 2470 km.

Work out the average speed of the plane in km/h.
Give your answer correct to the nearest whole number.

..... km/h

(Total for Question 20 is 3 marks)



21 Solve the simultaneous equations

$$\begin{aligned} 3x + 5y &= 6 \\ 7x - 5y &= -11 \end{aligned}$$

Show clear algebraic working.

$x =$

$y =$

(Total for Question 21 is 3 marks)

22 Hamish buys a new car for \$20 000
The car depreciates in value by 19% each year.

Work out the value of the car at the end of 3 years.
Give your answer to the nearest \$.

\$.....

(Total for Question 22 is 3 marks)



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23 The diagram shows a box in the shape of a cuboid.

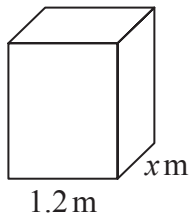


Diagram **NOT** accurately drawn

The box is put on a table.

The face of the box in contact with the table has length 1.2 metres and width x metres.

The force exerted by the box on the table is 27 newtons.

The pressure on the table due to the box is 30 newtons/m²

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

Work out the value of x .

$x = \dots\dots\dots$

(Total for Question 23 is 3 marks)



24 The table shows information about the surface area of each of the world's oceans.

Ocean	Surface area in square kilometres
Pacific	1.56×10^8
Indian	6.86×10^7
Southern	2.03×10^7
Arctic	1.41×10^7
Atlantic	1.06×10^8

(a) Write 1.56×10^8 as an ordinary number.

.....
(1)

(b) Which ocean has the least surface area?

.....
(1)

(c) Work out the difference, in square kilometres, between the surface area of the Atlantic Ocean and the surface area of the Indian Ocean.
Give your answer in standard form.

..... square kilometres
(2)

(Total for Question 24 is 4 marks)



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25 (a) Write down the integer values of x that satisfy the inequality $-2 < x \leq 4$

.....
(2)

The region **R**, shown shaded in the diagram, is bounded by three straight lines.

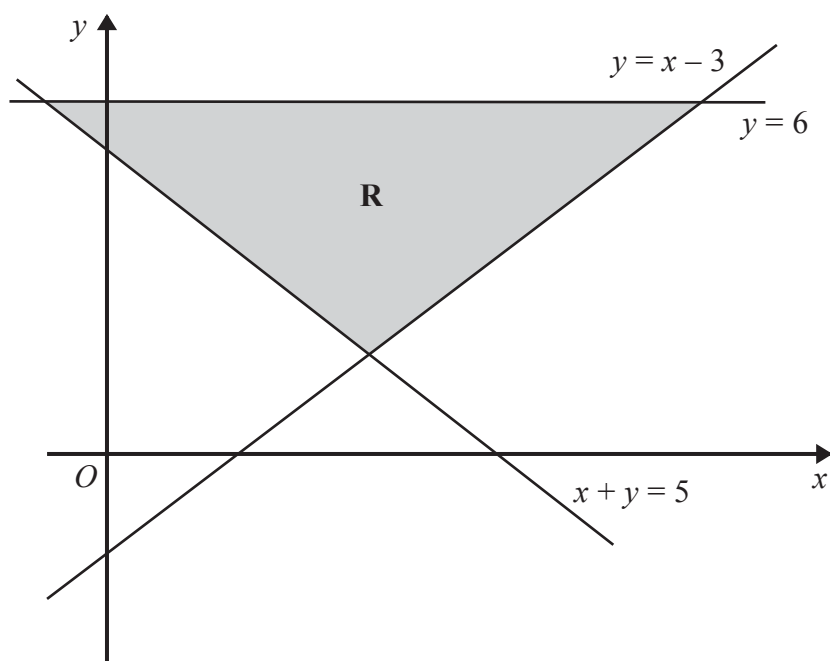


Diagram **NOT** accurately drawn

(b) Write down the three inequalities that define the region **R**.

.....
.....
.....
(2)

(Total for Question 25 is 4 marks)



- 26 The diagram shows two congruent isosceles triangles and parts of two congruent regular polygons, **X** and **Y**.

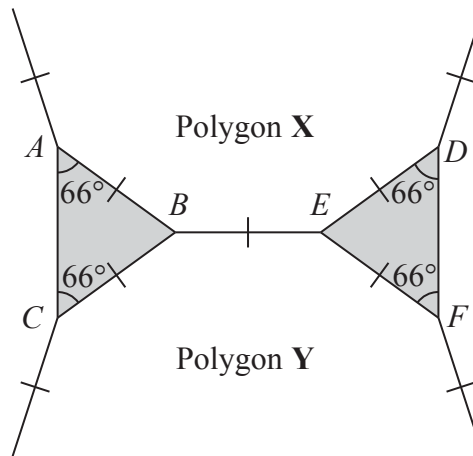


Diagram **NOT** accurately drawn

The two regular polygons each have n sides.

Work out the value of n .

$n = \dots\dots\dots$

(Total for Question 26 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

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