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19 The diagram shows rectangle $ABCD$

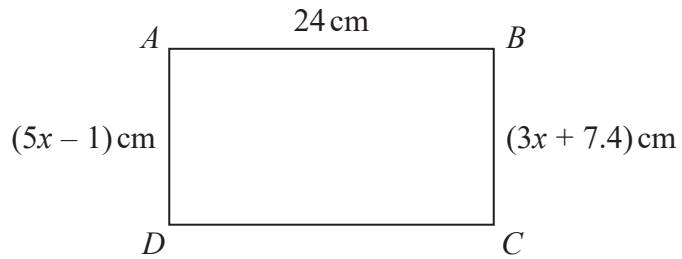


Diagram **NOT** accurately drawn

Work out the perimeter of the rectangle.
Show your working clearly.

..... cm

(Total for Question 19 is 4 marks)



P 7 2 4 3 9 A 0 1 7 2 4

20 The weight of a cake is 2.75 kg, correct to 2 decimal places.

(a) Write down the lower bound of the weight of the cake.

..... kg
(1)

(b) Write down the upper bound of the weight of the cake.

..... kg
(1)

Penny has worked out $\frac{81.3 \times 59.2}{1.9^2}$ on her calculator.

Her answer is 13 332.299 17

Penny's answer is not sensible.

(c) By rounding each number to one significant figure, work out a suitable estimate to show that her answer is not sensible.
Show your working clearly.

(2)

(Total for Question 20 is 4 marks)



21 The points A and B are on a coordinate grid.

The coordinates of A are $(6, 4)$

The coordinates of B are $(17, j)$ where j is a constant.

The midpoint of AB has coordinates $(k, 15)$ where k is a constant.

Find the value of j and the value of k

$$j = \dots\dots\dots$$

$$k = \dots\dots\dots$$

(Total for Question 21 is 3 marks)

22 Solve the simultaneous equations

$$5x + 4y = -2$$

$$2x - y = 4.4$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 22 is 3 marks)



23 Matteo is going to invest 5000 Swiss francs for two years.

He can invest his money in Bank G or in Bank H.

Bank G
1.6% per year
compound interest

Bank H
2.9% interest added after
two years

The total amount of interest Matteo would receive at the end of two years from Bank G is more than the amount of interest Matteo would receive at the end of two years from Bank H.

How much more?

..... Swiss francs

(Total for Question 23 is 4 marks)



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24 (a) Write down the value of $(m + 2)^0$ where m is a positive integer.

.....
(1)

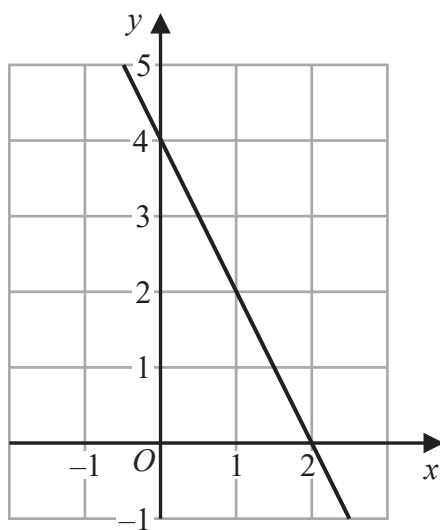
(b) Simplify $(3a^2b^4)^3$

.....
(2)

(c) Factorise fully $14x^2y^4 + 21x^3y^2$

.....
(2)

The diagram shows a straight line drawn on a grid.



(d) Write down an equation of the line.

.....
(2)

(Total for Question 24 is 7 marks)



25 The diagram shows an isosceles triangle, with base length 24 cm.

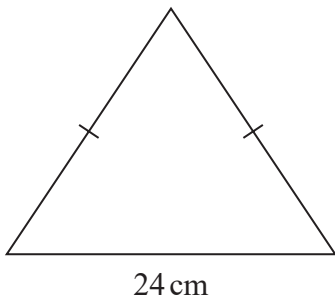


Diagram **NOT** accurately drawn

The perimeter of the triangle is 54 cm.

Work out the area of the triangle.

..... cm²

(Total for Question 25 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS

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