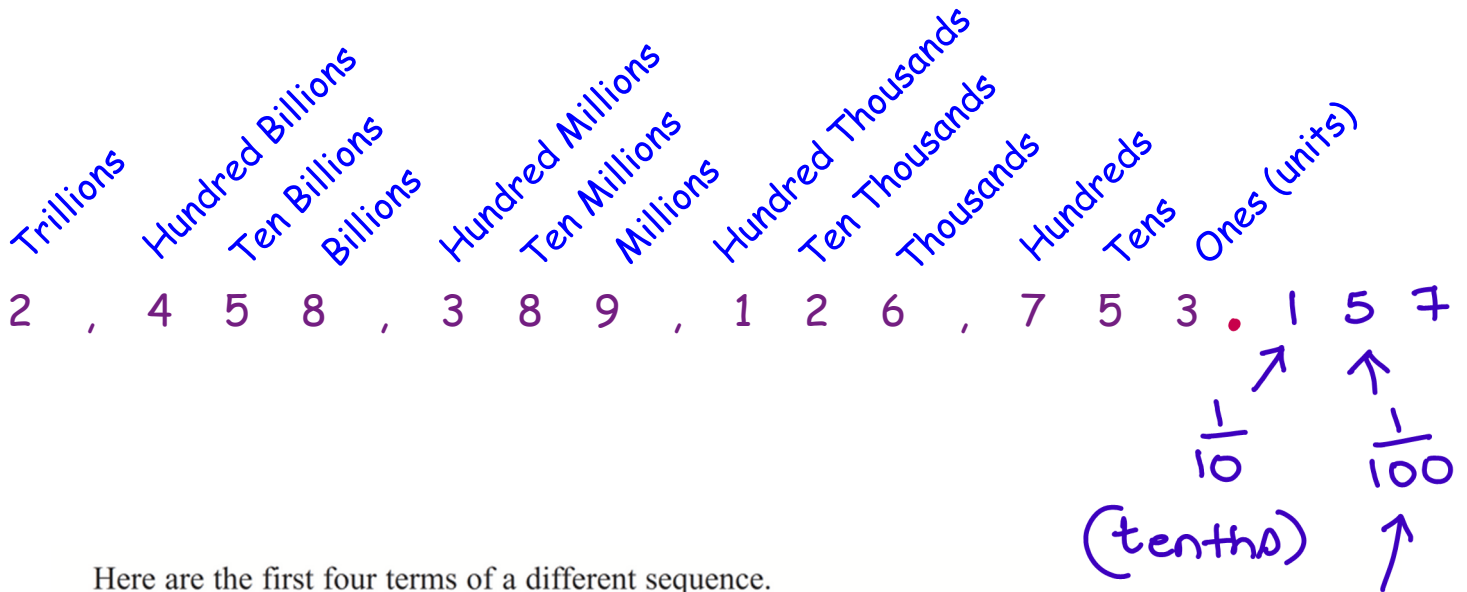


22 - October - 2026

$$4 \times 10 + 9 \times 1$$

1 Write down the value of the 7 in the number 49.715

↑
Seven tenths



Here are the first four terms of a different sequence.

$$6n+3$$

$$\begin{array}{ccccccc} 3 & & 9 & & 15 & & 21 & & 27 \\ \hline & +6 & & +6 & & +6 & & +6 & \end{array}$$

(b) Is 63 a number in this sequence?

You must give a reason for your answer.

No as $6(5)+3$ is 33 and $6(6)+3$ is 39

$$\begin{array}{r} 6n + \cancel{3} = 63 \\ \quad \quad \quad \cancel{-3} \quad -3 \end{array}$$

$$\begin{array}{r} 6n = 60 \\ \hline 6 \quad 6 \end{array}$$

$$n = 10$$

10th term is 63

$$\begin{array}{r} 6n + \cancel{3} = 100 \\ \quad \quad \quad \cancel{-3} \quad -3 \end{array}$$

$$\begin{array}{r} \cancel{6}n = 97 \\ \hline \cancel{6} \quad 6 \end{array}$$

$$n = 16.1\bar{6}$$

- $$(-2, 1)$$

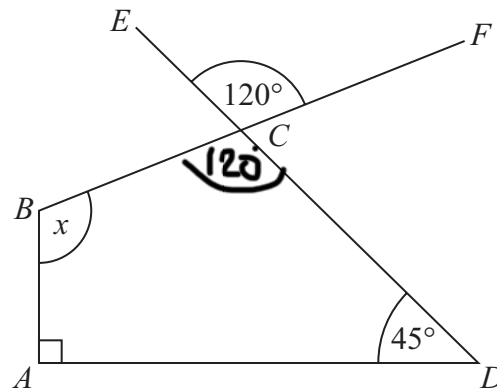
- (1)

- (1)

(Total for Question 9 is 3 marks)



- 13 $ABCD$ is a quadrilateral.
 BCF and DCE are straight lines.



Work out the size of the angle marked x .
 Give a reason for each stage of your working.

$$90 + 45 = 135$$

$$360 - 135 = 225 - 120 = 105$$

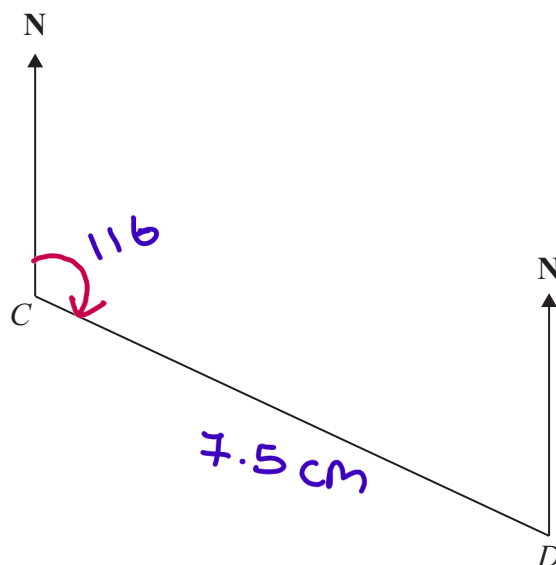
$$B = 105$$

$$105 + 135 + 120 = 360 \quad 105$$

(Total for Question 13 is 4 marks)



- 14 The accurately drawn diagram shows two points, C and D , on a map.



- (a) Find the bearing of D from C .

↑
start

116

(1)

The scale of the map is 1 cm represents 4 km.

- (b) Work out the real distance from C to D .

$$7.5 \text{ cm} \times 4 = 30 \text{ km}$$

..... km
(2)

(Total for Question 14 is 3 marks)



19 Katya counted the number of people in each of 50 cars.

The table gives information about her results.

Number of people	Frequency
1	16
2	15
3	7
4	9
5	3

Median

2

15

(a) Find the median number of people.

$$\begin{array}{c} \Sigma F = 50 \\ \uparrow \\ \text{sum} \end{array}$$

$1, 1, \dots, 1, 2, 2, \dots, 2, 3, \dots, 3$
 $\underbrace{\hspace{1.5cm}}_{16} \quad \underbrace{\hspace{1.5cm}}_{15} \quad \underbrace{\hspace{1.5cm}}_7$

$$\text{Median} = \frac{n+1}{2} = \frac{50+1}{2} = 25.5^{\text{th}} \text{ value}$$

$$0.250780261$$

(2)

(b) Write your answer to part (a) correct to 2 significant figures.

$$432,490$$

$$430,000$$

$$0.2700000000$$

(1)

(c) Expand $x(3x^2 + 5)$

$$3x^3 + 5x$$

23 Ben is trying to make m the subject of $p = \frac{m}{3} + 5$ $\rightarrow$ $3p = \frac{m}{3} \times 3 + 5 \times 3$

Here is his working.

$$p - 5 = \frac{m}{3}$$

$$3 \times p - 5 = m$$

$$m = 3p - 5$$

Ben's answer is wrong.

(a) What mistake has Ben made?

He subtracted 5 on both sides then multiplied by 3.

$$\frac{p \times 3 = m + 5}{p}$$

$$p = \frac{m + 5}{3}$$

$$3p = m + 15$$

$$-15$$

$$-15$$

$$m = 3p - 15$$

24 Mia pays £25 ^{original} for 200 oranges.

Mia puts the oranges into bags.
She puts 5 oranges into each bag.

Mia sells all the bags of oranges for £1 each bag.

Work out Mia's percentage profit.

$$\longrightarrow \frac{\text{profit}}{\text{original}} \times 100$$

$$200 \div 5 = 40 \text{ bags}$$

$$40 \times 1 = \pounds 40$$

$$40 - 25 = 15$$

$$\frac{15}{40} = 15 \div 40 = 0.375 \times 100 = 37.5\%$$

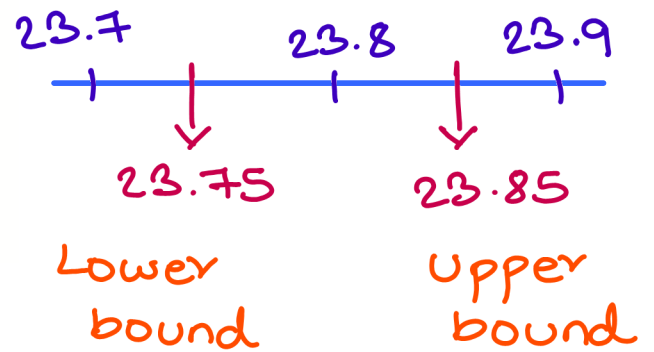
(Total for Question 24 is 3 marks)

- 26 Karim rounds a number, n , to 1 decimal place.
The result is 23.8

Complete the error interval for n .

$$23 < n \leq 24$$

$$23.75 \leq n < 23.85$$

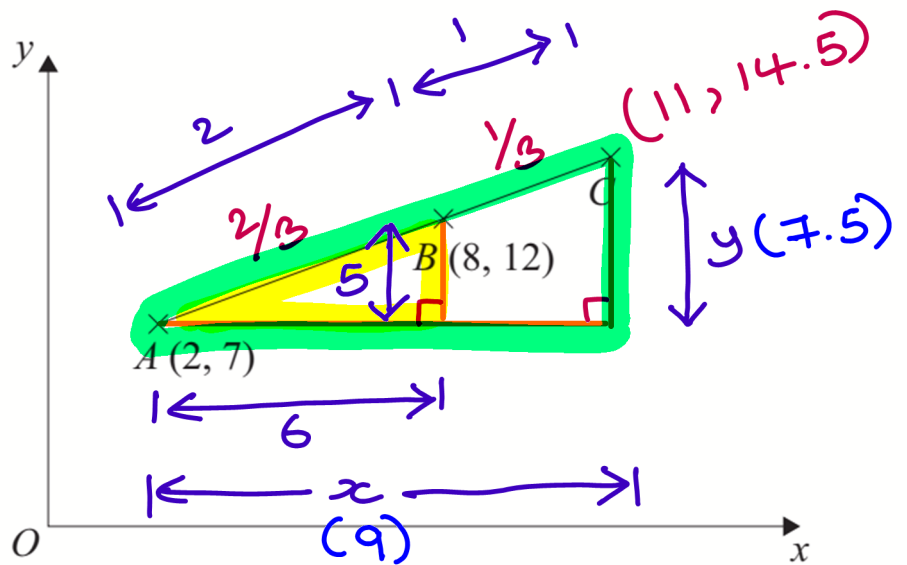


28 ABC is a straight line.

$$\cancel{y} \times \frac{2}{\cancel{y}} \times x = 6 \times 3$$

$$\frac{2x}{2} = \frac{18}{2}$$

$$x = 9$$



Point A has coordinates $(2, 7)$

Point B has coordinates $(8, 12)$

$$BC = \frac{1}{2} AB$$

Find the coordinates of point C .

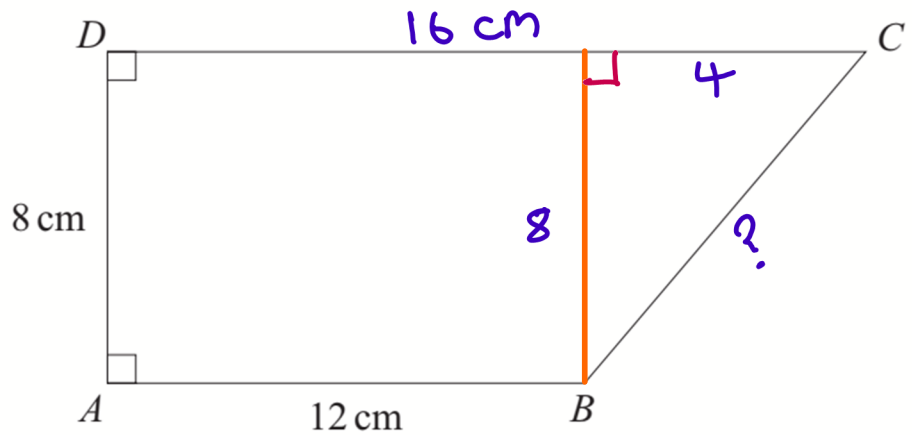
$$\cancel{y} \times \frac{2}{\cancel{y}} \times y = 5 \times 3$$

$$2y = 15$$

$$y = 7.5$$

29 The diagram shows trapezium $ABCD$.

$$P = 44.9 \text{ cm}$$



$$AB = 12 \text{ cm}$$

$$AD = 8 \text{ cm}$$

The trapezium has an area of 112 cm^2

Work out the perimeter of the trapezium.

Give your answer correct to 3 significant figures.

$$BC = \sqrt{8^2 + 4^2}$$

$$BC = \sqrt{80} \text{ cm}$$

$$A = \left(\frac{a+b}{2} \right) \times h$$

$$112 = \left(\frac{12+b}{2} \right) \frac{8}{1}$$

$$2 \times 112 = \frac{96 + 8b}{2} \quad \times 2$$

$$224 = 96 + 8b$$

$$-96 \quad -96$$

$$\frac{128}{8} = \frac{8b}{8}$$

$$b = 16$$

30 Solve algebraically the simultaneous equations

$$\frac{7y}{7} = \frac{-x}{7} + \frac{14}{7} \quad \leftarrow \begin{array}{l} x + 7y = 14 \\ 3x - y = 9 \end{array}$$

$$y = -\frac{1}{7}x + 2 \quad \leftarrow \text{straight line}$$

$$x = 14 - 7y$$

$$3x - y = 9$$

$$3(14 - 7y) - y = 9$$

$$42 - 21y - y = 9$$

$$\begin{array}{rcl} 42 - 22y & = & 9 \\ +22y & & +22y \end{array}$$

$$\begin{array}{rcl} 42 & = & 9 + 22y \\ -9 & & -9 \end{array}$$

$$\begin{array}{rcl} 33 & = & 22y \\ \underline{22} & & \underline{22} \end{array}$$

$$y = \frac{3}{2}$$

$$x = 14 - 7y$$

$$= 14 - 7\left(\frac{3}{2}\right) = 14 - \frac{21}{2} = \frac{28 - 21}{2} = \frac{7}{2}$$

$$x = 7/2$$

- 1 (b) Write down the next number in the sequence

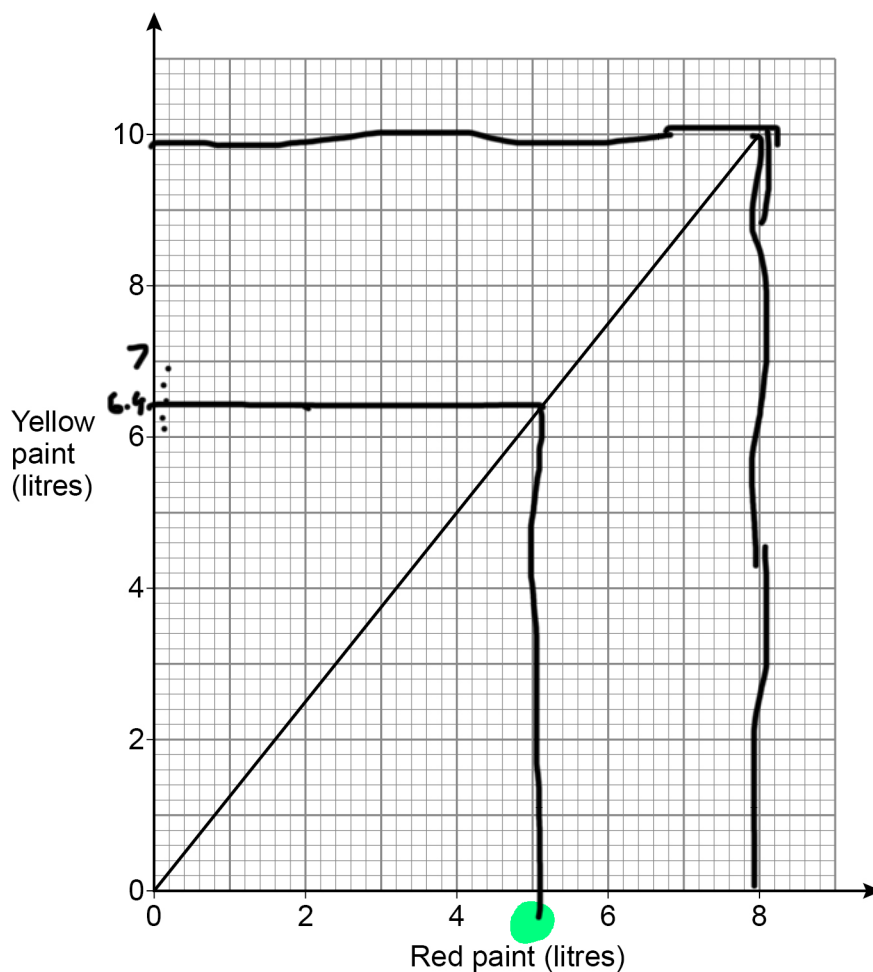
2 $\times 2$ 4 $\times 2$ 8 16

+ 2 + 2 + 4 + 8 + 16

+ 2 + 2 + 2

Answer 26?

- 4 Ola and Pip make orange paint by mixing red paint and yellow paint.
The graph shows how much of each colour paint to use.



- 4 (a) Ola uses 5 litres of yellow paint.

Write down how much **red** paint Ola **uses**.

[1 mark]

Answer 6.4 litres

- 4 (b) Pip uses 10 litres of yellow paint.

How much **orange** paint does Pip **make**?

[2 marks]

$$10 + 8 = 18$$

Answer 18 litres



5

x

A number is divided by 8

The answer is 43 remainder 5

Work out the number.

$$\frac{x}{8} = 43 \frac{5}{8} \quad \text{+}$$

$$\cancel{8} \times \frac{x}{\cancel{8}} = \frac{349}{\cancel{8}} \times \cancel{8}$$

$$x = 349$$

11

In this question use a pair of compasses.

The line shown is the **diameter** of a circle, centre X.

Draw the circle.



15 (b)

The volume of a sphere is $\frac{4}{3}\pi r^3$ where r is the radius.

Work out the volume of a sphere with **diameter** 20 cm

Give your answer in terms of π

$$\frac{4}{3} 10^3 = 1333.3 \pi$$

$$\frac{4}{3} \times 1000 = 1333.3$$

Answer 1333.3 π cm³

Leave as simplified fraction, no need to convert to decimal.

17

A chord is drawn on a circle.

Which statement is correct?

Tick **one** box.

[1 mark]

☒

The chord must be longer than the radius.

☐

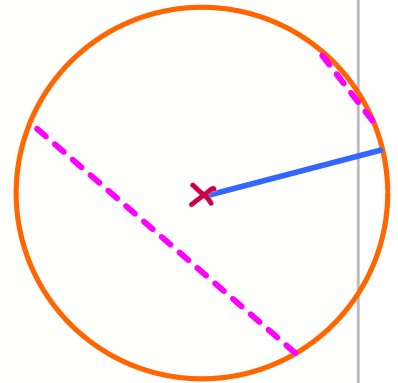
The chord must be equal in length to the radius.

☐

The chord must be shorter than the radius.

☒

The chord could be longer than, equal in length to or shorter than the radius.



19

The table shows information about the marks of students in a test.

	Mean mark	Range of marks
School A	61	14
School B	56	21

Tick **one** box for each statement.

[3 marks]

	True	May be true	Not true
On average, School A had higher marks	☒	☐	☐
There are more students in School B	☐	☒	☐
School B had a greater spread of marks	☒	☐	☐

idk what
this means.

range



20 (b)

Work out

$$40 \times 30 \times 10^5$$

Give your answer in standard form.

$$1200 \times 10^5$$

$$1.2 \times 10^7$$

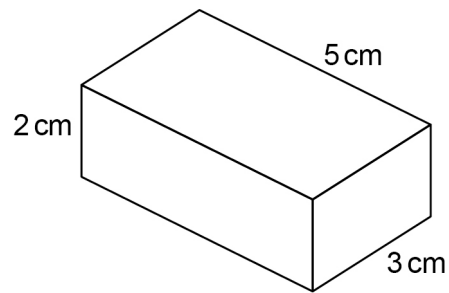
$$12000$$

$$= 1.2 \times 10^4$$

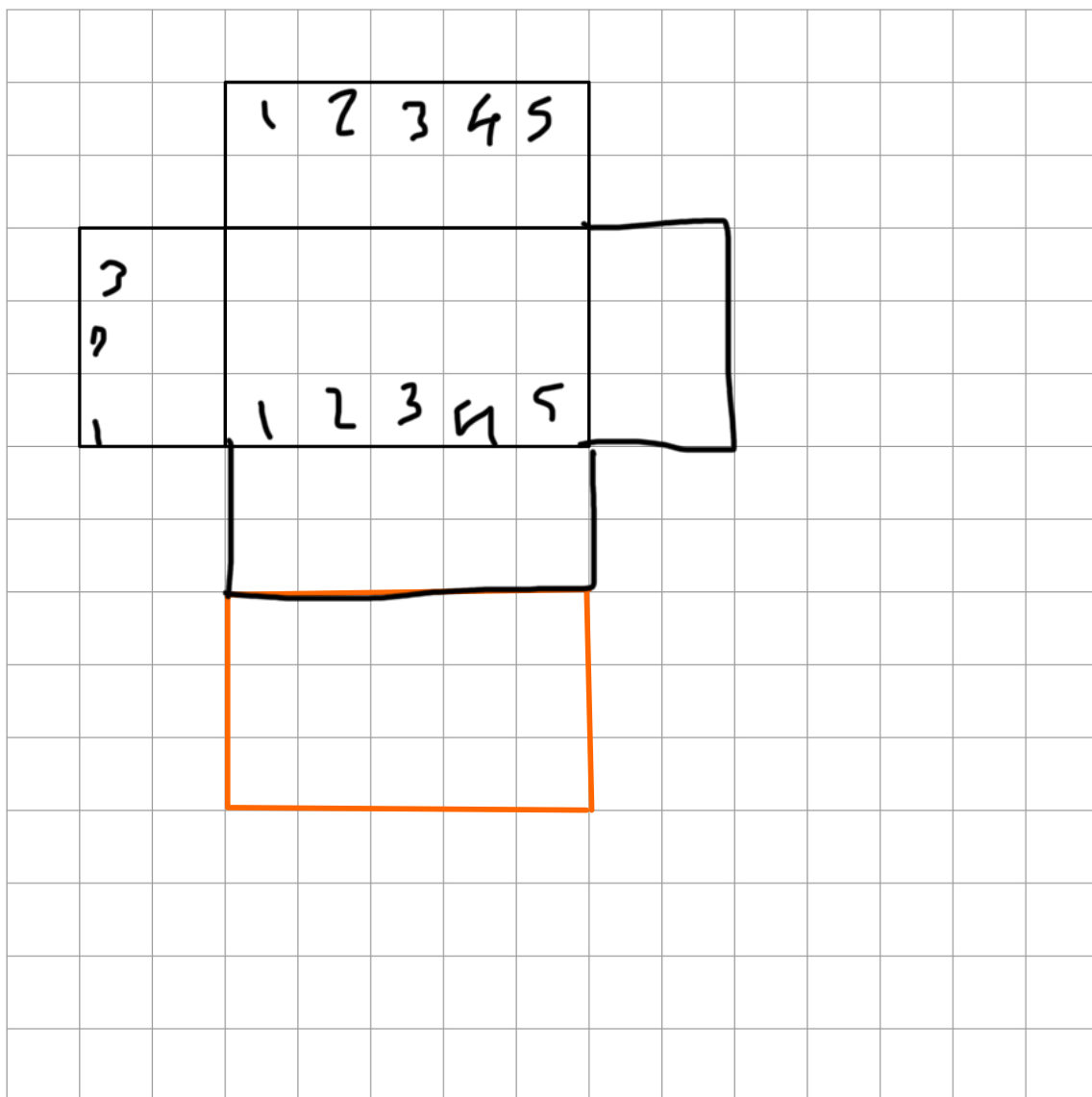
Answer 1.2×10^4

21

Here is a cuboid.

Do not write
outside the
box

Complete the drawing of the net on the centimetre grid.

[2 marks]

24

$$y = \frac{1}{x}$$

Which of these values of x gives the **greatest** value of y ?

Circle your answer.

[1 mark]

$$\frac{45}{100} = \frac{9}{20} \times \frac{5}{5} = 0.45$$

$$\frac{2}{5} = 0.4$$

~~-20~~

95

$$\frac{1}{2}, \frac{1}{4}, \frac{1}{10}, \frac{1}{100}$$

25

Circle the value of $\sin 90^\circ$

0

$\frac{1}{2}$

$\frac{\sqrt{3}}{2}$

1

huh how to do this

25

Circle the value of $\sin 90^\circ$

[1 mark]

0

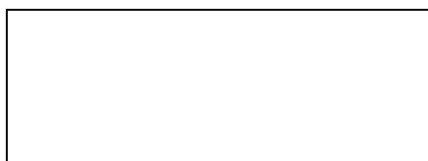
 $\frac{1}{2}$ $\frac{\sqrt{3}}{2}$

1

i will how to do this

Do not write
outside the
box

26

 $(x + 2)$ cmNot drawn
accurately $(x - 5)$ cmThe area of the rectangle is 120 cm^2 Work out the value of x .

[4 marks]

$$\text{Area} = L \times W$$

$$(x-5)(x+2)$$

$$\text{total } x\text{'s} = 5$$

$$\begin{array}{r} 24 \\ \times 5 \\ \hline 120 \end{array}$$

$$x^2 + 2x - 5x - 10$$

$$x^2 - 3x - 10 = 120$$

$$x^2 - 3x = 130$$

$$x^2 - 3x - 130 = 0$$

$$x \times x + 3x$$

$$24^2 - 3(24)$$

$$576 - 72 = 504$$

(ac)

$$\begin{array}{cc} -130 & 10 \\ -13 & -3 \end{array}$$

(b)

 $x =$

24?

END OF QUESTIONS

$$(x-13)(x+10) = 0$$

$$x-13=0$$

$$x+10=0$$

$$x=13$$

$$x \neq -10$$



2 3