Scegli e risolvi alcuni esercizi dai tuoi libri delle medie sui seguenti argomenti:
proprietà delle potenze
espressioni con le frazioni
espressioni con i numeri relativi
espressioni con i monomi e i polinomi
equazioni di primo grado
proporzionalità diretta

Tra gli argomenti precedenti scegline uno e realizza un video di spiegazione dell'argomento

Per ciascuno dei prossimi esercizi prova a:
1. tradurre il testo in italiano (eventualmente segna su un quadernino le parole che non conosci)
2. risolvere
3. contestualizzare (di che cosa sto trattando? frazioni, equazioni, teorema di Pitagora, probabilità …)

Gli esercizi sono di varia difficoltà non preoccuparti, se hai fatto fatica ripassa gli elementi che ti hanno dato più da fare, se non riesci, evidenzia l'esercizio così l'anno prossimo ti ricordi di chiedere

1 Write down the mathematical name for

(a) an angle which is less than 90°,

.... [1]

(b) a polygon with 5 sides,

.... [1]

(c) a quadrilateral with exactly one pair of parallel sides.

.... [1]

2

hexagon   perpendicular   isosceles
          regular   congruent

Put a ring around the word that describes two polygons that are the same shape and size.   [1]

3 Write $\frac{60}{105}$ in its simplest form.
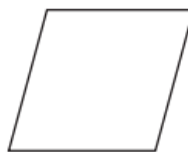
.... [1]

4 Calculate.

$$\sqrt{\frac{1}{0.01} - 8^2}$$

.... [1]

5 **(a)**

The diagram shows a rhombus.

On the diagram, draw all the lines of symmetry.   [2]

6

24 m

NOT TO
SCALE

x m

17 m

19 m

7 m
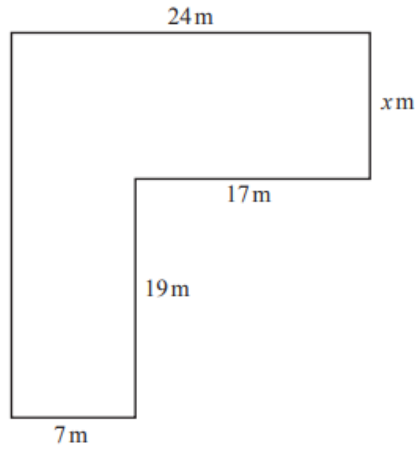
The diagram shows a shape made from rectangles.
The shape has a total area of 517 m².

Find the value of x.

9 Alan and Beth share $1190 in the ratio   Alan : Beth = 5 : 2.

Work out how much Alan receives.

$ .... [2]

11 Rangan buys 3.6 kg of potatoes and 2.8 kg of leeks.
The total cost is $13.72 .
Leeks cost $2.65 per kilogram.

Find the cost of 1 kg of potatoes.

$ .... [3]

13 (a) Write 18 as the product of its prime factors.

.... [2]

(b) At a bus stop

- a red bus arrives every 18 minutes

and

- a blue bus arrives every 24 minutes.

At 10 47 a red bus and a blue bus arrive.

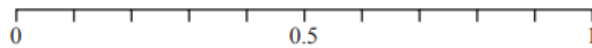Find the next time when a red bus and a blue bus arrive together.

19 A circle has a circumference of 56 mm.

Work out the radius of this circle.

.... mm [2]

4 A bag contains 20 balls.
5 of these balls are red.
A ball is picked at random from the bag.

On the probability scale, draw an arrow (↓) to show the probability that this ball is red.

```
   ┌──┬──┬──┬──┬──┬──┬──┬──┬──┐
   0              0.5             1
```
[1]

5 Work out the number of hours in 3 days.

.... hours [1]

6 Write these in order of size, starting with the smallest.

$$\frac{11}{27} \qquad 41\% \qquad 0.4 \qquad \frac{16}{39}$$

.... < .... < .... < .... [2]
     smallest

7 Solve the equation.
$$6 - 2x = 3x$$

$x =$ .... [2]

8 Work out the difference in temperature between $-6\,°C$ and $5\,°C$.

.... $°C$ [1]

9 $A = \frac{1}{4}bc^2$

Calculate the value of A when $b = 3$ and $c = 6$.

.... [2]

8 Calculate.
$$\frac{4}{\sqrt{0.0025}}$$

.... [1]
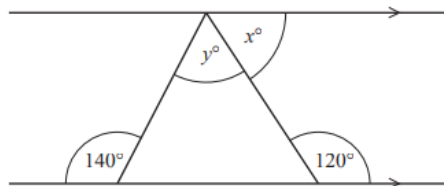
9 Thor changes 40 000 Icelandic Krona into dollars when the exchange rate is 1 krona $= \$0.0099$.

Work out how many dollars he receives.

$ .... [1]

10
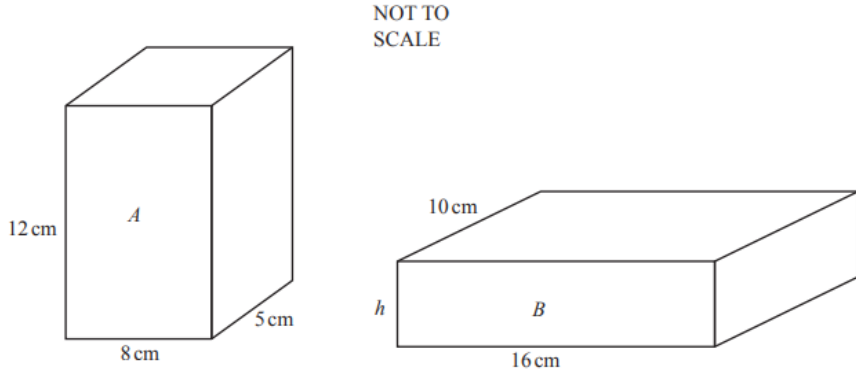

The diagram shows a triangle drawn between a pair of parallel lines.

Find the value of x and the value of y.

$x =$ ....

$y =$ .... [3]

11

NOT TO SCALE

12 cm

A

5 cm

8 cm

10 cm

h

B

16 cm
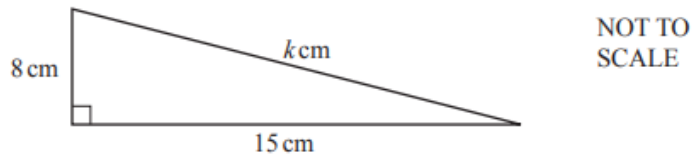
The diagram shows cuboid A and cuboid B.
Cuboid A has the same volume as cuboid B.

Calculate the height, h, of cuboid B.

h = ... cm [3]

(b)

8 cm

k cm

15 cm

NOT TO
SCALE

Calculate the value of k.

k = ... [2]

12 Fernando records the favourite sport of each of 20 people.

football	cricket	rugby	cricket	rugby	rugby	football	football	rugby	football
cricket	rugby	tennis	football	tennis	football	rugby	cricket	football	cricket

(a) Complete the frequency table to show this information.
You may use the tally column to help you.

Favourite sport	Tally	Frequency
Cricket		
Football		
Rugby		
Tennis		

[2]

(b) Fernando wants to draw a pie chart to show this information.

Work out the sector angle for football.

.... [2]

13 Increase 42 by 16%.

.... [2]

19 The length of one side of a rectangle is 12 cm.
The length of the diagonal of the rectangle is 13 cm.

Calculate the area of the rectangle.
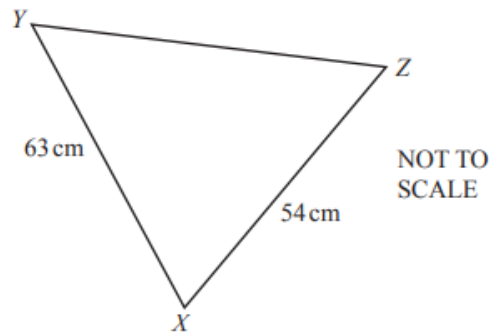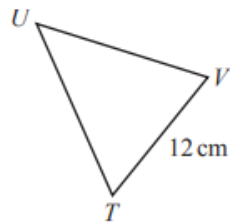
.... cm² [3]

20 Alex and Chris share sweets in the ratio Alex : Chris = 7 : 3.
Alex receives 20 more sweets than Chris.
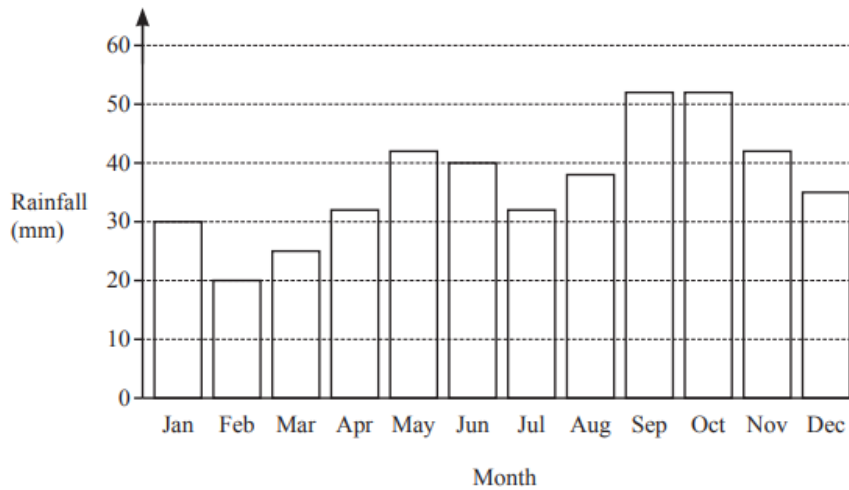
Work out the number of sweets Chris receives.

.... [2]

23

The diagram shows two similar triangles *TUV* and *XYZ*.
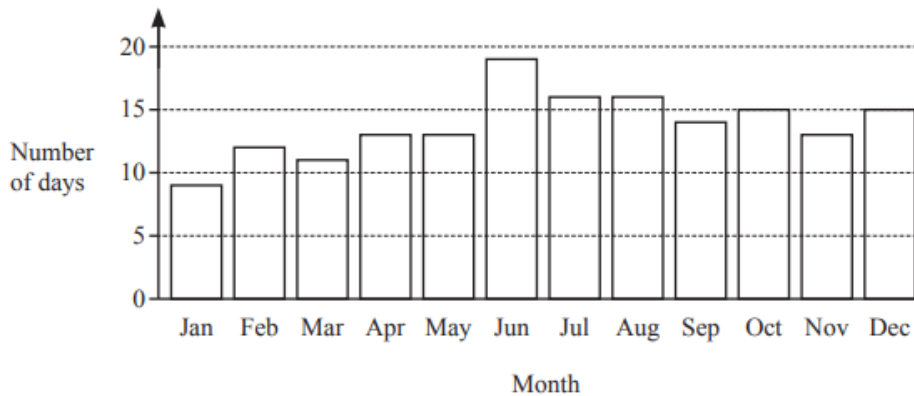
Calculate *UT*.

1   This bar chart shows the amount of rainfall, in mm, for each month of one year in a city.

(a) Write down the month with the least amount of rainfall.

.... [1]

(b) This bar chart shows the number of days it rained each month for the same year in this city.

Mia says that the months with the most rainfall also have the greatest number of days it rained.

Explain why she is wrong.

....

.... [1]

2   Complete this bill.

2.5 kg potatoes at $1.12 per kg	$ ....
.... kg bananas at $1.05 per kg	$ ....
Total =	$ 4.69

[3]

5   The mean of seven numbers is 16.

Six of these numbers are   12, 20, 19, 10, 21 and 13.

Find the seventh number.

.... [2]

16   A bag contains 7 red discs, 5 green discs and 2 pink discs.

Helen takes one disc at random, records the colour and replaces it in the bag.
She does this 140 times.

Find how many times she expects to take a green disc.

.... [2]

7   (a) This table shows the temperature, in °C, at midnight and at 3 pm for four cities on the same day.

City	Temperature at midnight (°C)	Temperature at 3 pm (°C)
Sydney	21	28
Oslo	−3	1
Toronto	−18	−8
Seoul	−5	4

Use the table to complete this statement.

The city with the biggest difference in temperature between midnight and 3 pm

is .... with a difference of ....°C.   [2]
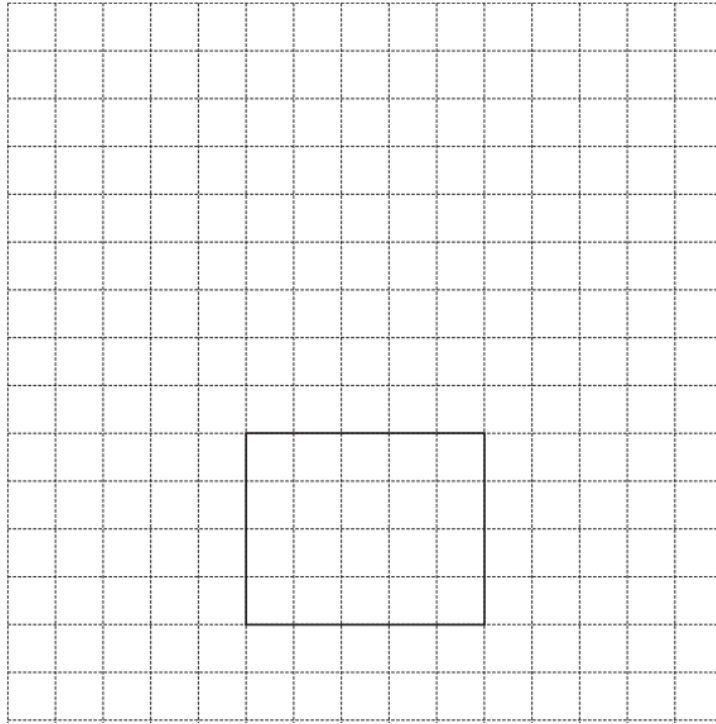
(b) The temperature at midnight in Moscow was −11 °C.
At 3 pm the temperature has increased by 5 °C.

Work out the temperature at 3 pm.

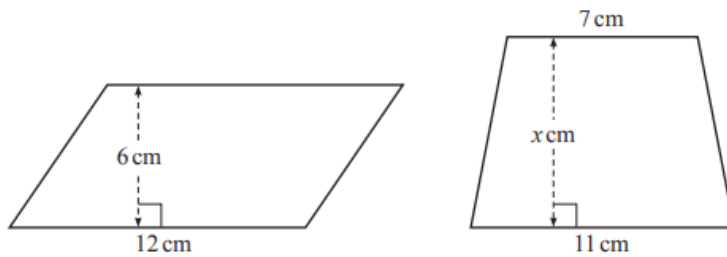...°C [1]

12 (a) A cuboid has length 5 cm, width 4 cm and height 3 cm.

On the 1 cm² grid, complete the net of the cuboid.
One face has been drawn for you.

13

The area of the parallelogram is the same as the area of the trapezium.

Work out the value of *x*.

17 Expand the brackets and simplify.
$$4(2m+3)-5(m-2)$$

.... [2]