

# TERM III HOLIDAY PACKAGE

## MATHEMATICS

## PRIMARY SIX

TOPIC: **LENGTH MASS AND CAPACITY**

Conversion of metres to centimetres and vice versa (1m = 100cm)

Examples

1. Change 13 metres to centimetres

$$1\text{m} = 100\text{cm}$$

$$13\text{m} = 13 \times 100\text{cm}$$

$$13\text{m} = 1300\text{cm}$$

2. Convert 140cm into metres

$$100\text{cm} = 1\text{m}$$

$$140\text{cm} = \left( \frac{140}{100} \right) \text{m}$$

$$140\text{cm} = 1.4\text{m}$$

**Try these**

1. Convert each of the following into centimetres.

a) 6m

c) 23m

e)  $4\frac{1}{2}\text{m}$

b) 18m

d) 45m

2. Express each of the following as metres.

a) 900cm

b) 430cm

e) 6.5cm

Conversion of kilograms to grams and vice versa

(1kg = 1000g)

**Try these**

1. Convert each of the following into kilogrammes.

a) 12Kg	c) 150Kg	e) $2\frac{2}{5}$ Kg
b) 5Kg	d) 0.125Kg	

2. Express each of the following as grammes.

a) 8000g	b) 500g	c) 78.5g

3. Find the number of 500g sachets of salt that can be obtained from 2kg of salt.

4. Bulungu bought four 750g tins of Vaseline. Express the total mass of Vaseline he bought in kilogrammes.

Conversion of litres to millilitres and vice versa (1 litre = 1000 millilitres)

**Try these**

1. Change into millilitres.

a) 12litres	c) 106litres	e) $5\frac{3}{4}$ litres
b) 32litres	d) 0.25litres	

2. Convert to litres

a) 72000ml	b) 1500ml	e) 3850ml

3. Find the number of 500ml bottles of water that are contained in 2litres of water.

4. Kasuka drank six 550ml bottles of water. Find in litres the amount of water water he drank.

## **Perimeter**

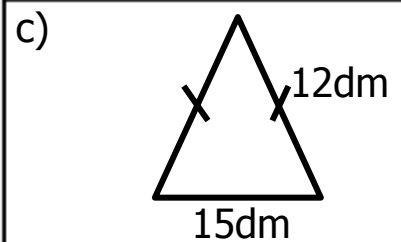
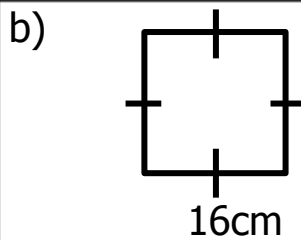
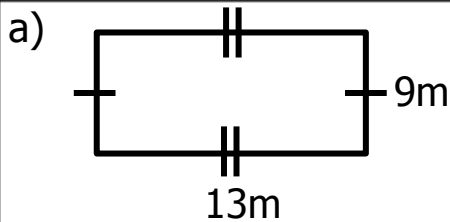
Perimeter of a rectangle =  $L+W+L+W$  or  $2(L+W)$  or  $2L+2W$

Perimeter of a square =  $s+s+s+s$  or  $4s$

Perimeter of a triangle =  $s+s+s$

## **Try these**

Work out the total distance round each of the following shapes.



## **Area**

Note: Area is given in square units. ( $\text{cm}^2$ ,  $\text{m}^2$ ,  $\text{dm}^2$ ,  $\text{mm}^2$ ) etc.

Area of a rectangle =  $L \times W$

Area of a square =  $s \times s$

Area of a triangle =  $\frac{1}{2} \times b \times h$

Area of a trapezium =  $\frac{1}{2}h(a+b)$

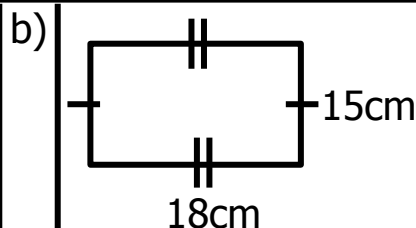
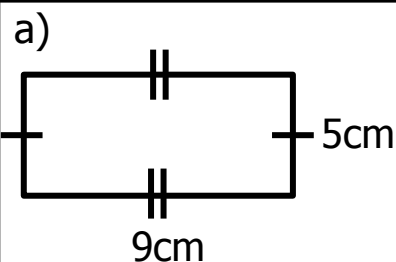
Area of a parallelogram =  $b \times h$

Area of a rhombus =  $\frac{1}{2} \times d_1 \times d_2$  or  $\frac{1}{2} \times b \times h \times 4$

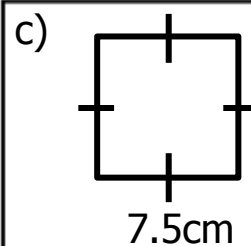
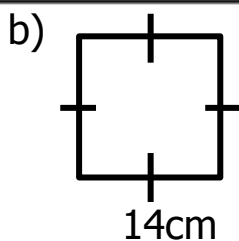
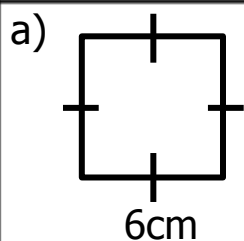
Area of a kite =  $\frac{1}{2} \times d_1 \times d_2$

## **Try these**

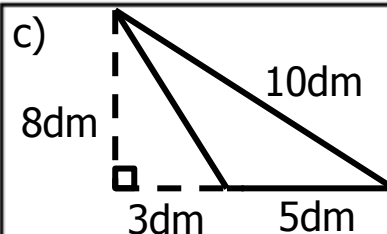
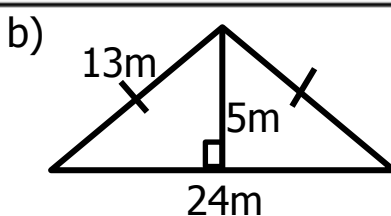
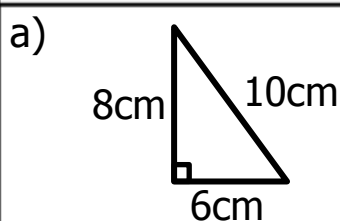
1. Calculate the area of each of the following figures.



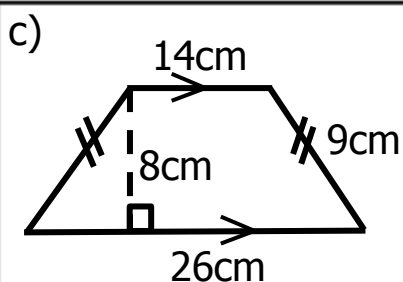
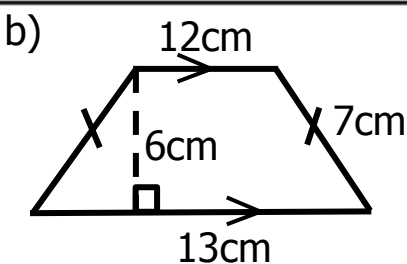
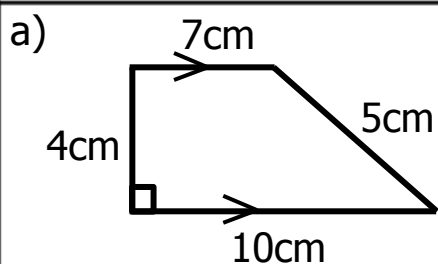
2. Find the area of the following squares.



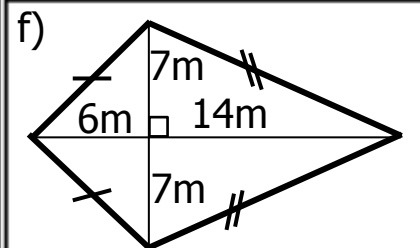
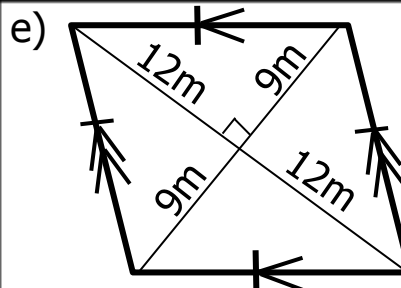
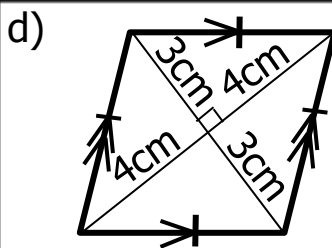
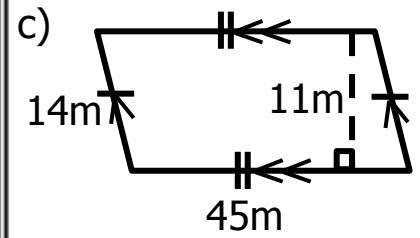
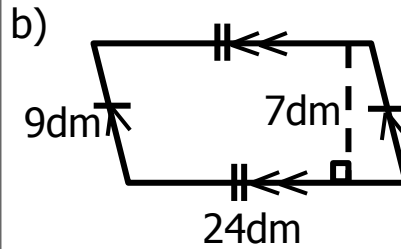
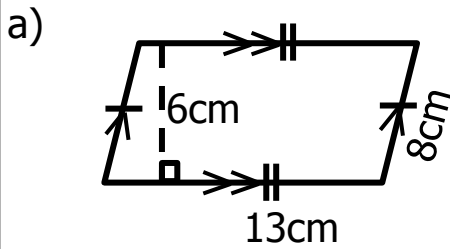
3. Work out the area of the each triangle.



4. Calculate the area of each of each trapezium.



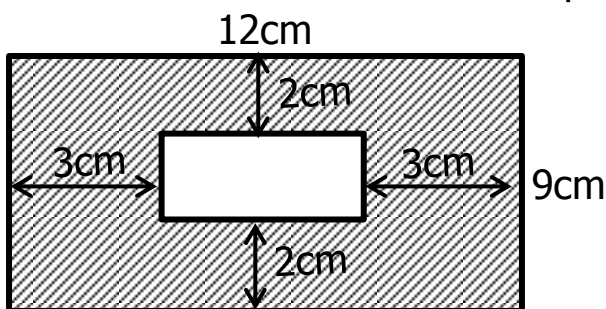
5. Work out the area of the figures below.



### Difference in area of different shapes

Example

Work out the area of the shaded part.



*Solution*

Length of the inner figure

$$12\text{cm} - (3\text{cm} + 3\text{cm})$$

$$12\text{cm} - 6\text{cm} = 6\text{cm}$$

Length of the inner figure

$$9\text{cm} - (2\text{cm} + 2\text{cm})$$

$$9\text{cm} - 4\text{cm}$$

$$5\text{cm}$$

Area of the inner figure

$$A = L \times W$$

$$A = 6\text{cm} \times 5\text{cm}$$

$$A = 30\text{cm}^2$$

Area of the outer figure

$$A = L \times W$$

$$A = 12\text{cm} \times 9\text{cm}$$

$$A = 108\text{cm}^2$$

Area of the shaded part

$$108\text{cm}^2$$

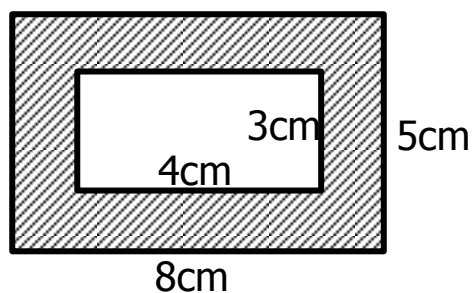
$$- 30\text{cm}^2$$

$$78\text{cm}^2$$

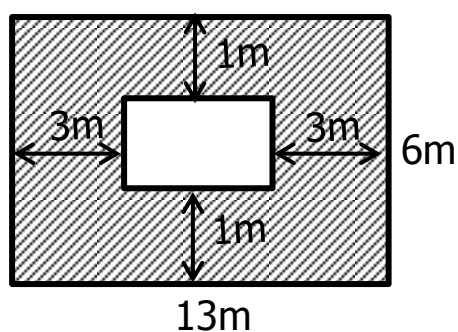
## Try these

1. Calculate the area of the shaded part.

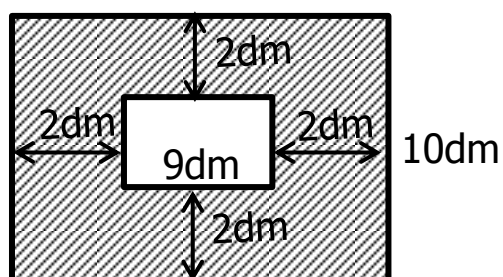
a)



b)



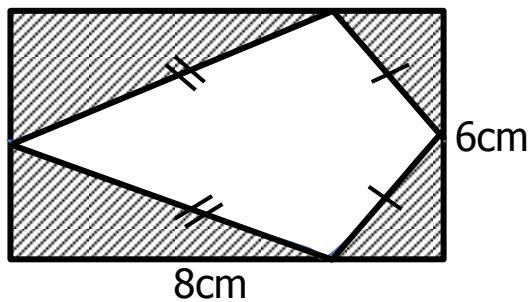
c)



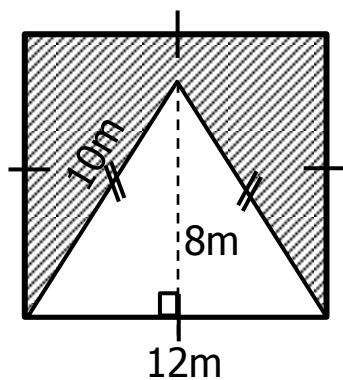
SAMPLE

2. Find the area of the shaded part.

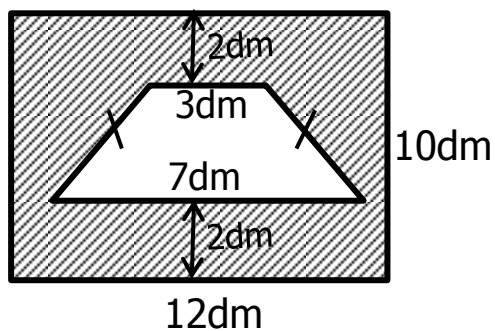
a)



b)



c)



SAMPLE



## Circumference of the circle

### Formulas used

→ Diameter =  $2r$  or  $r + r$

→ Radius =  $\frac{d}{2}$

→ Circumference =  $\pi d$  or  $2\pi r$

### Examples

Find the circumference of a circle  
whose radius is 14cm (Use  $\pi = \frac{22}{7}$ )

$$C = 2\pi r$$

$$C = 2 \times \frac{22}{7} \times 14\text{cm}$$

$$C = 2 \times \frac{22}{\cancel{7}_1} \times \overset{2\text{cm}}{\cancel{14}^2}\text{cm}$$

$$C = 2 \times 22 \times 2\text{cm}$$

$$C = 88\text{cm}$$

Find the circumference of a circle  
whose diameter is 20m.

(Use  $\pi = 3.14$ )

$$C = \pi d$$

$$C = 3.14 \times 20\text{m}$$

$$C = \frac{314}{100} \times 20\text{m}$$

$$C = 62.8\text{m}$$

### Try these

1. Calculate the circumference of a circle whose radius is;

a) 7dm (Use  $\pi = \frac{22}{7}$ )

b) 21cm (Use  $\pi = \frac{22}{7}$ )

c) 35m (Use  $\pi = \frac{22}{7}$ )

d) 30cm (Use  $\pi = 3.14$ )

e) 5cm (Use  $\pi = 3.14$ )

f) 18dm (Use  $\pi = 3.14$ )

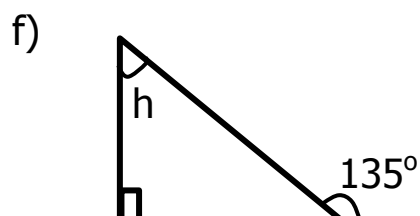
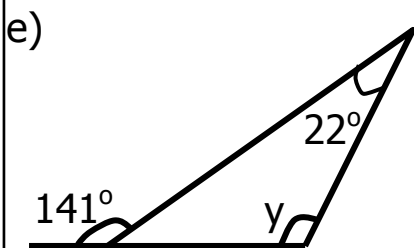
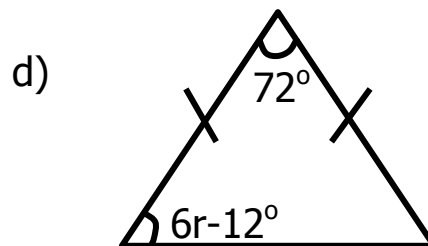
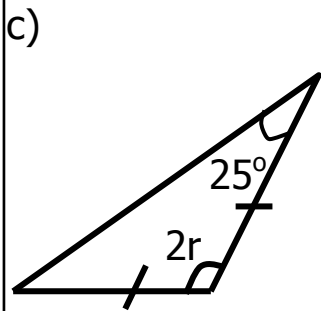
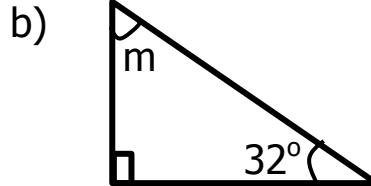
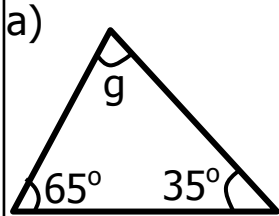
SAMPLE

Note:

- The interior angle sum of a triangle is  $180^\circ$
- Base angles of an isosceles triangle are equal
- Two interior angles of a triangle add up to one opposite exterior angle.

### Try these

Find the value of the unknown.



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