

HOME LEARNING

Year 10 – Maths

Add units of measure

Essential learning:	<ul style="list-style-type: none">• Measure or a draw a length using a ruler
Practising:	<ul style="list-style-type: none">• Add lengths, capacities and weights• Compare lengths, capacities and weights in different units
Learning about:	<ul style="list-style-type: none">• Identify the diameter, radius and circumference of a circle
Extension:	<ul style="list-style-type: none">• Find the area and circumference of circles

Contents:

- Worksheet 1** Measure or a draw a length using a ruler
- Worksheet 2** Add lengths, capacities and weights
- Worksheet 3** Compare lengths, capacities and weights in different units
- Worksheet 4** Circumference of circles
- Worksheet 5** Area of circles

Worksheet 1 Measure or draw a length using a ruler

1 Measure each of the following lines, in cm.

a) 

b) 

c) 

d) 

2 Measure each of the following lines, in mm.

a) 

b) 

c) 

3 Draw lines of the following lengths

a) 7 cm

b) 33 mm

c) 8.5 cm

1 Add together the following measures.

a) $300\text{ g} + 250\text{ g} + 75\text{ g} =$

.....

b) $600\text{ ml} + 15\text{ ml} + 420\text{ ml} =$

.....

c) $85\text{ m} + 480\text{ m} + 160\text{ m} =$

.....

2 Josh has some books he wants to post.

Gone : 350 g

Kings : 190 g

Time Waits : 450 g

Stars : 150 g

The total weight of his parcel must be less than 700g

Which 3 books can he post?

Show how you decide.

.....

.....

3 Aaron is training for a cycle race. He plans to cycle a total of at least 250 km per week.

During one week he did 3 training sessions.

Session 1 : 72 km

Session 2 : 80 km

Session 3 : 90 km

Has he reached his target of 250 km?

Show how you decide.

.....

.....

.....

Worksheet 3 Compare lengths, capacities and weights in different units

1 Write each list of measures in order starting with the smallest.

a) 5 cm, 6 m, 35 mm

.....

b) 400 ml, 30 cl, 0.5 litres

.....

c) 9 kg, 900 g, 0.95 kg

.....

2 For each pair circle the largest measure.

a) 3 cm 35 mm

b) 300 ml 2 litres

c) 420 cm 5 m

d) 200 ml 2 cl

e) 28 mm 3 cm

f) 90 cl 2 litres

g) 3 m 250 cm

h) 1500 g 2 kg

i) 100 g 10 kg

j) 0.3 kg 30 g

k) 500 ml 0.6 litres

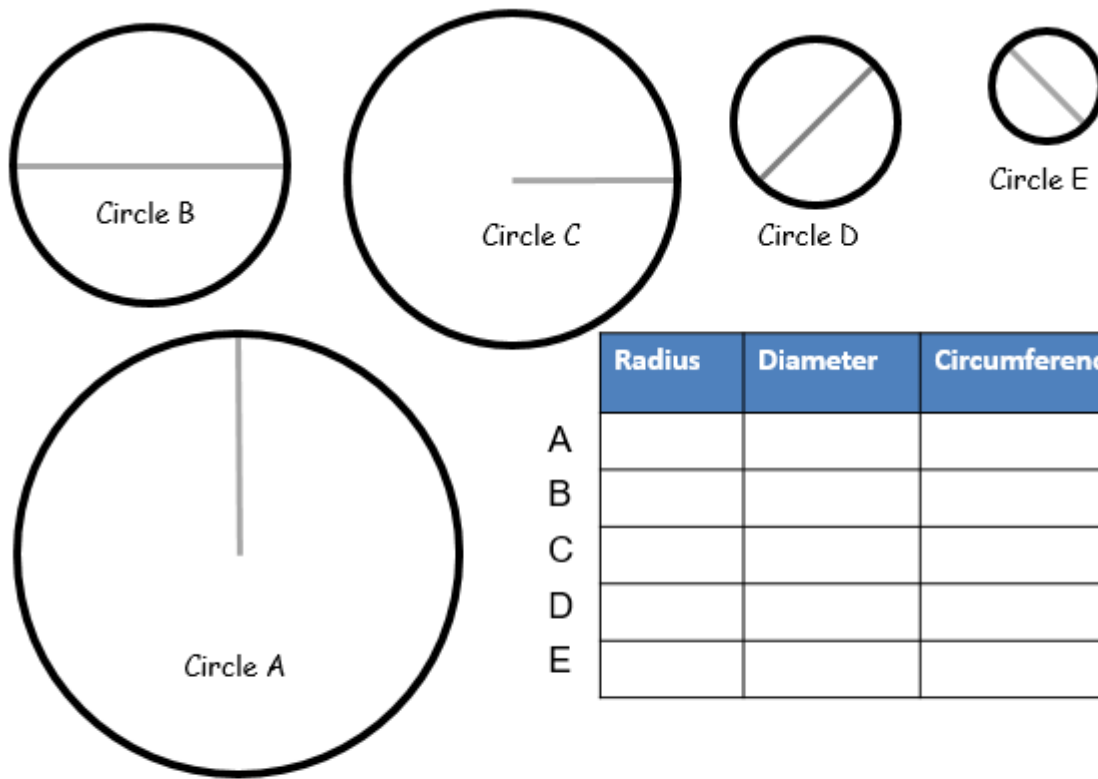
l) 0.7 kg 800 g

Worksheet 4 Circumference of a Circle

Task 1

Circle A shows the radius of the circle. This is a line from the centre to the edge of the circle.

Circle B shows the diameter of the circle. This is a line from one edge to the other, that goes through the centre.



	Radius	Diameter	Circumference	Circumference ÷ Diameter
A				
B				
C				
D				
E				

Place your piece of string on the diameter or radius of any of these circles and make a mark on the string to show the length - measure this with a ruler

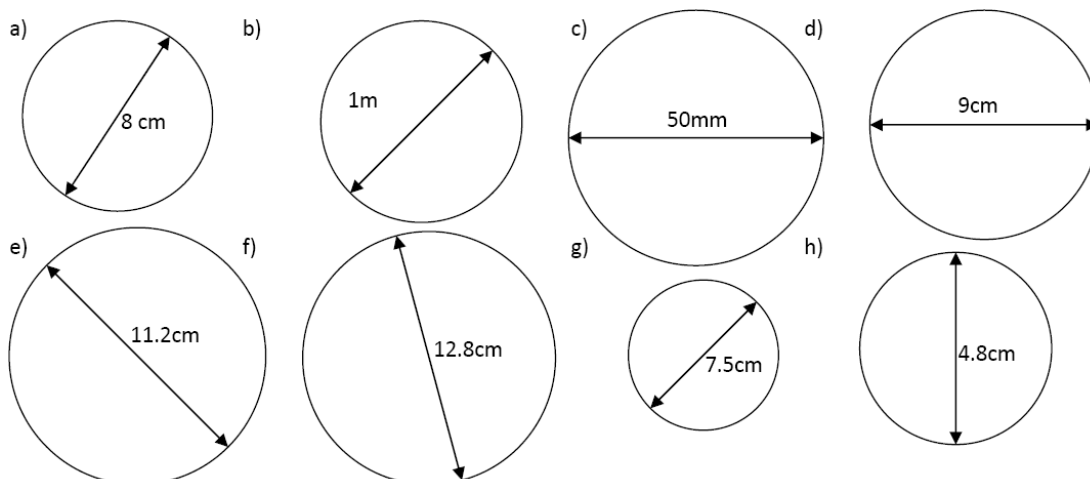
Then place your piece of string all the way around the same circle and make a mark for the length of its circumference - measure this with a ruler

How many times longer is the circumference? Try with a different circle

Task 2

Your answers on the right hand column of task 1 were probably about 3.

Use the formula $3.14 \times \text{diameter}$ to find the circumference of the following circles.

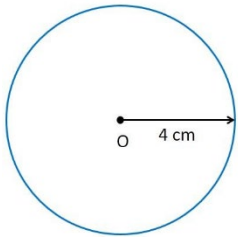


Worksheet 5 Area of a Circle

To find the area of a circle:

1. Find the radius of the circle
2. Use the formula: $\pi (3.14) \times \text{radius} \times \text{radius}$
3. Remember to include units with your answer (e.g. cm^2)

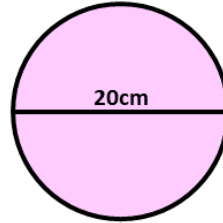
Example 1:



Circle with radius 4cm

1. Radius = 4cm
2. $3.14 \times 4 \times 4 = 50.24$
3. Area = 50.24cm^2

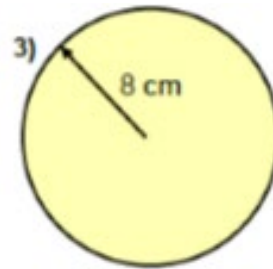
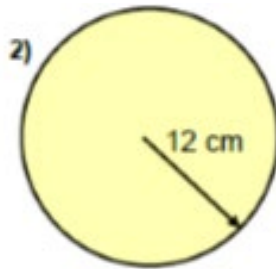
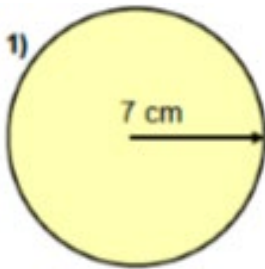
Example 2:



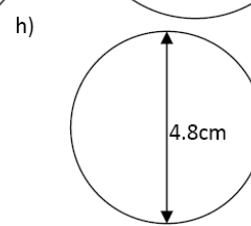
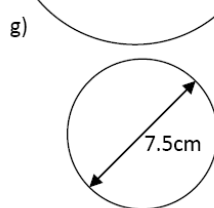
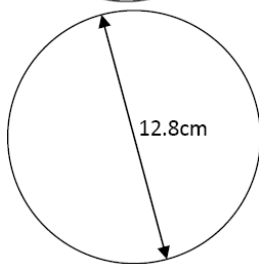
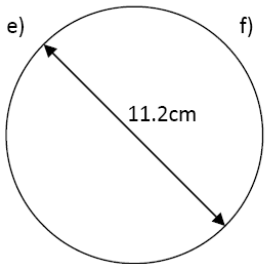
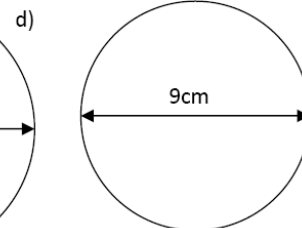
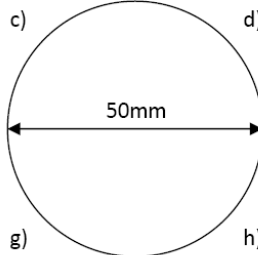
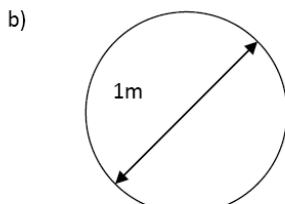
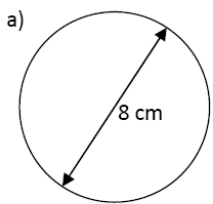
Circle with diameter 20cm

1. Radius = 10cm
2. $3.14 \times 10 \times 10 = 314$
3. Area = 314cm^2

Task 1: Now find the area of the following circles (see example 1).



Task 2: Now find the area of the following circles (see example 2).



Task 3: Now find the area of the following circles (see examples 1 and 2).

