

## Lesson 9

### Perimeter, Area & Volume : Year 9

#### 9.1 Twenty-One Today

*Work quickly, but accurately.*

*You have up to 21 minutes to answer as many questions as you can.*

*Do NOT use a calculator*

##### Question 1

Write down the *area* of this rectangle :



Answer : \_\_\_\_\_

##### Question 2

Which one of the following can *area* measured in ?

- |                     |                           |
|---------------------|---------------------------|
| ( a ) $\text{cm}^3$ | ( b )    miles per gallon |
| ( c ) $\text{mm}^2$ | ( d )    volts            |

Answer : \_\_\_\_\_

##### Question 3

Write down the *perimeter* of this rectangle :



Answer : \_\_\_\_\_

##### Question 4

Which do you think could be the volume of a can of coca cola ?

- |                     |                        |
|---------------------|------------------------|
| ( a )    3.5 litres | ( b )    330 ml        |
| ( c )    1 gallon   | ( d ) $1 \text{ cm}^3$ |

Answer : \_\_\_\_\_

**Question 5**

Which of the following is the formula for the *area* of a circle ?

( a )     Area  $\bigcirc = \pi^2 r$

( b )     Area  $\bigcirc = \pi r^3$

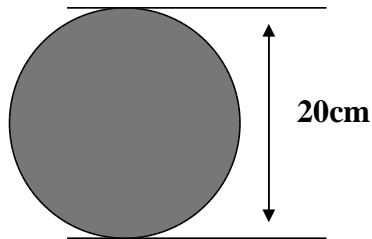
( c )     Area  $\bigcirc = \pi r^2$

( d )     Area  $\bigcirc = \frac{1}{2} b h$

Answer : \_\_\_\_\_

**Question 6**

Taking the value of  $\pi$  to be 3, write down the *area* of this circle :



Answer : \_\_\_\_\_

**Question 7**

What special word is used to describe the *perimeter* of a circle ?

( a )     Circumnavigate

( b )     Circumference

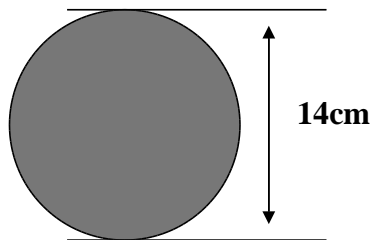
( c )     Circumscribe

( d )     Circulate

Answer : \_\_\_\_\_

**Question 8**

Taking the value of  $\pi$  to be 3, write down the *perimeter* of this circle :



Answer : \_\_\_\_\_

**Question 9**

Which of the following might the *perimeter* of a regular hexagon be measured in ?



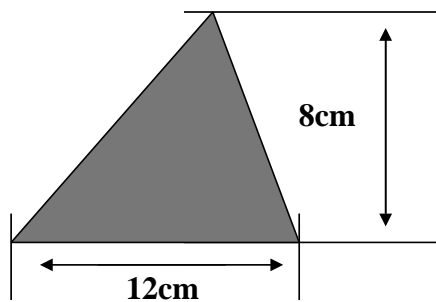
- ( a )    cm  
( c )    cm<sup>3</sup>

- ( b )    cm<sup>2</sup>  
( d )    cm<sup>4</sup>

**Answer :** \_\_\_\_\_

**Question 10**

Write down the *area* of this triangle :



**Answer :** \_\_\_\_\_

**Question 11**

Which of the following could be a *length* ?

- ( a )    54 Kilojoules                      ( b )    54 Kilograms  
( c )    54 Kilobytes                      ( d )    54 Kilometres

**Answer :** \_\_\_\_\_

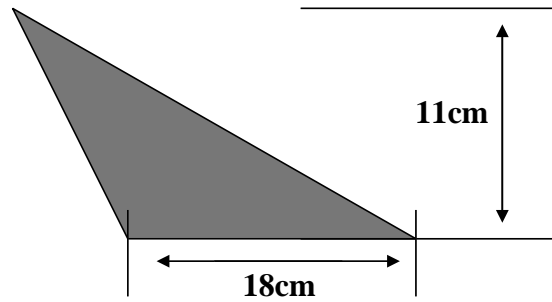
**Question 12**

Estimate, in cm, the *length* of your longest finger.

**Answer :** \_\_\_\_\_

**Question 13**

Write down the **area** of this triangle :



**Answer :** \_\_\_\_\_

**Question 14**

When talking about an **amount of surface**, are you talking about :

- |       |          |       |         |
|-------|----------|-------|---------|
| ( a ) | a length | ( b ) | an area |
| ( c ) | a volume | ( d ) | a time  |

**Answer :** \_\_\_\_\_

**Question 15**

An equilateral triangle has a side of length 12cm.

What is its **perimeter** ?

**Answer :** \_\_\_\_\_

**Question 16**

What shape has its area described as

**"Half the sum of the parallel sides times the distance in between" ?**

- |       |             |       |            |
|-------|-------------|-------|------------|
| ( a ) | a trapezium | ( b ) | a triangle |
| ( c ) | a circle    | ( d ) | a hexagon  |

**Answer :** \_\_\_\_\_

**Question 17**

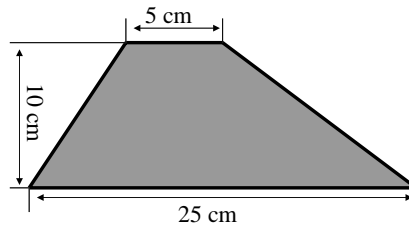
When talking about a quantity of water, are you typically talking about

- |       |          |       |         |
|-------|----------|-------|---------|
| ( a ) | a length | ( b ) | an area |
| ( c ) | a volume | ( d ) | a time  |

**Answer :** \_\_\_\_\_

**Question 18**

Write down the *area* of the following shape :



**Answer :** \_\_\_\_\_

**Question 19**

A square has a *perimeter* of 32 cm.

What is the length of each side ?

**Answer :** \_\_\_\_\_

**Question 20**

A square has an *area* of 25 cm<sup>2</sup>.

What is the length of each side ?

**Answer :** \_\_\_\_\_

**Question 21**

Estimate the *area* of the front of an A4 piece of paper.

**Answer :** \_\_\_\_\_