**Y8 DECEMBER**

**ASSESSMENT**

**Section B**

Calculator

Time allowed: 28 mins

**Name:……………………… Form:……**

**Maths Teacher:……………………………..**



**10**  A wheel has a diameter of 70 cm. Work out its circumference.

….…………………cm

(2 marks)

**11** A circle fits exactly inside a square as shown.

 

 The square has sides of length 10 cm.

**a** Work out the area of the circle.

……………………cm2

**b** Work out the area shaded grey.

…………………………cm2

(4 marks)

**12.** Find the missing lengths of the triangles below.

 5cm 6cm

 3cm **a**

 4cm **b** 15cm 11cm **c**

 **(9 marks)**

**13.** A triangle has sides with lengths of 5 metres, 8 metres and 10 metres. Is it a right angled triangle? Explain your reasoning. **(2 marks)**

**14.** To wash a window that is 9 metres off the ground, Ben leans a 15 metre ladder against the side of the building. To reach the window, how far from the building should Ben place the base of the ladder? **(3 marks)**

**15** A rectangle has length 5 cm and width 12 cm. Work out the length of the diagonal of the rectangle.

…………………………cm

(2 marks)

**16** The cross-section of a prism is in the shape of a trapezium as shown.

 

 The volume of the prism is 630 cm3. Work out its length.

………………………cm

(3 marks)

**17** A water bottle in the shape of a cylinder holds 1 litre of water when full. Its height is 15 cm.

 Work out the radius of the water bottle. (1 litre = 1000 cm3)

………………………cm

(3 marks)

**18** This graph shows the change of depth, *d*, of water against time, *t*, as a container is filled at a constant rate.

*d*

*t*

 Which of these is the container?

 Circle the correct letter.

 **[1 mark]**

A

B

C

D

**19** Here is a conversion graph between two units of pressure.

Bars

PSI

60

40

1

0

20

3

2

0

**19 (a)** A car tyre needs to be at a pressure of 30 psi.

 What is this in Bars?

**[1 mark]**

|  |  |  |
| --- | --- | --- |
| Answer |  |  |

**19 (b)** A racing bicycle has a recommended pressure of 7.5 Bars.

 What is this in psi?

 **[2 marks]**

|  |
| --- |
|  |
| Answer |  |  |

**20** Water is poured into this container at a constant rate until it reaches the dashed line.

 One of these graphs shows the change of the depth, *d*, of water against time, *t*.

 Circle the correct letter.

 **[1 mark]**

*d*

*t*

*d*

*t*

*d*

*t*

*d*

*t*

A

B

C

D