AQA – Mensuration and calculations – GCSE Mathematics Paper-1
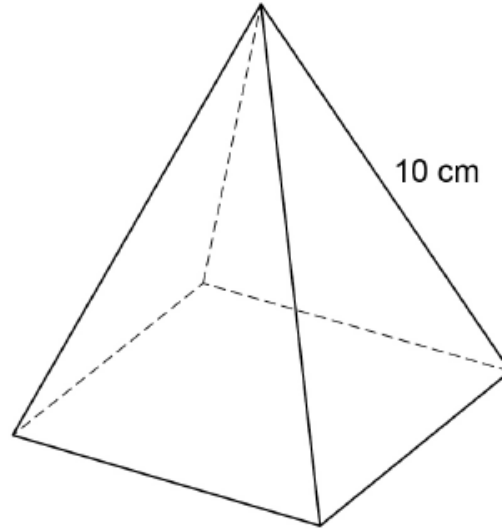
1.   May/2020/Paper_1F/No.15

A pyramid has a square base.

Each of the four sloping edges has length 10 cm

10 cm

The total length of all eight edges is 68 cm

Work out the **area** of the square base.

[4 marks]

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ cm^2

2. May/2020/Paper_1F/No.26(b)

(b) Work out the **total** length of the wire in the earring.

Give your answer in the form $a\pi + b$ where a and b are integers.

[4 marks]

_____

_____

_____

_____

_____

_____

_____

Answer _____ mm

3. May/2020/Paper_1F/No.27

Use trigonometry to work out the size of angle x.
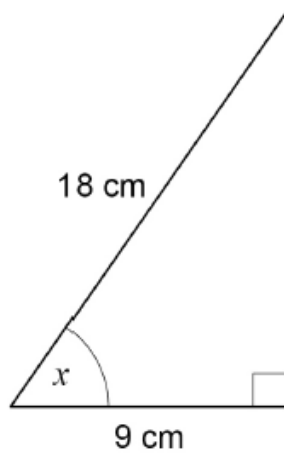
Not drawn
accurately

[2 marks]

_____

_____

_____

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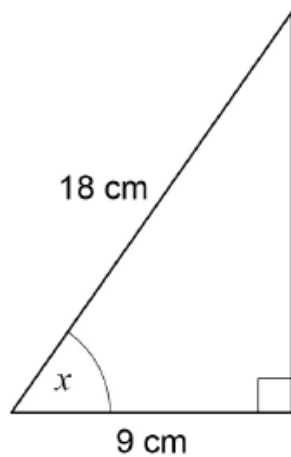
Answer _____ degrees

4.   May/2020/Paper_1H/No.5

Use trigonometry to work out the size of angle x.

Not drawn
accurately

18 cm

x

9 cm

[2 marks]

_____

_____

_____

_____

Answer _____ degrees

5.   May/2020/Paper_1H/No.8

The shorter side of a parallelogram has length 6.5 cm

Not drawn
accurately

6.5 cm

The length of the shorter side is $\dfrac{1}{9}$ of the perimeter.

Work out the length of the longer side.

[3 marks]

_____

_____

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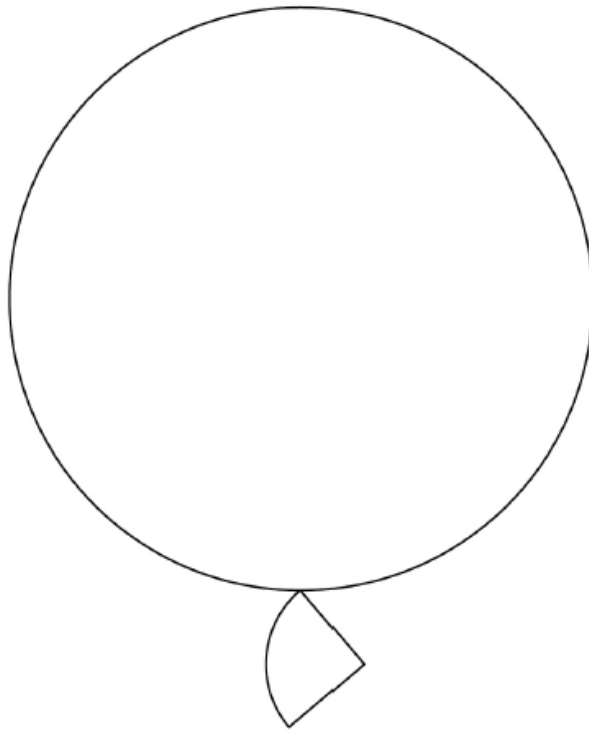
Answer _____ cm

6. May/2020/Paper_1H/No.12

Two wire shapes make an earring.

The shapes are

a circle with radius 21 mm

and

a quarter circle.

Not drawn
accurately

radius of circle : radius of quarter circle = 7 : 2

(a)   Show that the radius of the quarter circle is 6 mm

[1 mark]

_____

_____

6

(b)   Work out the **total** length of the wire in the earring.

Give your answer in the form $a\pi + b$ where a and b are integers.

[4 marks]
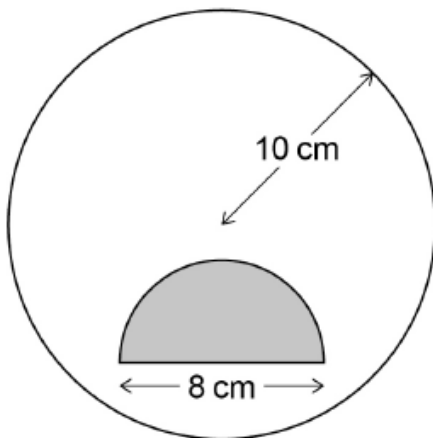
_____

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_____

_____

Answer _____ mm

7. June/2019/Paper_1H/No.9

A shaded semicircle is inside a circle as shown.

Not drawn
accurately

The **radius** of the circle is 10 cm

The **diameter** of the semicircle is 8 cm

How many times bigger is the unshaded area than the shaded area?

[4 marks]

_____

_____

_____

_____

_____

_____

_____

Answer _____

8. June/2019/Paper_1H/No.26

The turning point of the graph $y = (x + a)^2 + b$ has x-coordinate -2

(3, 1) is another point on the graph.

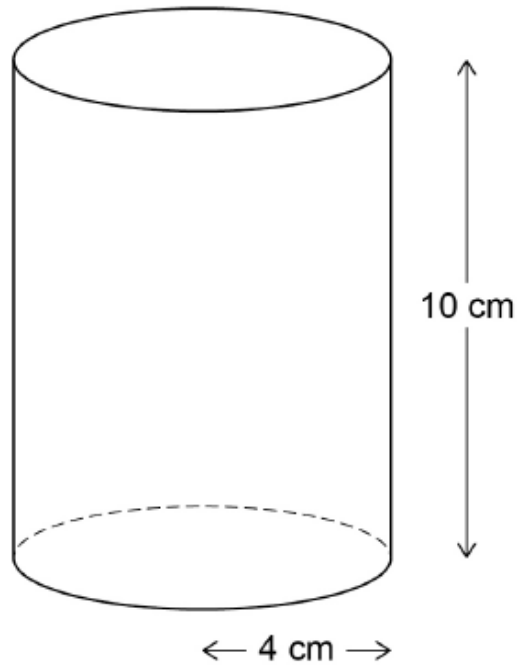Work out the y-coordinate of the turning point.

[3 marks]

_____

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_____

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_____

Answer _____

9. Nov/2019/Paper_1F/No.28

Here are two solids.
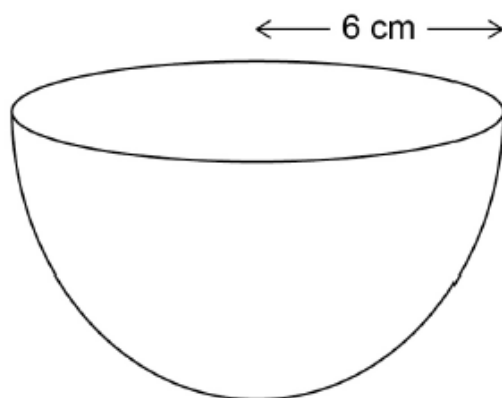
Cylinder

radius 4 cm   height 10 cm

10 cm

← 4 cm →

Hemisphere

radius 6 cm

←— 6 cm —→

volume of a hemisphere $= \dfrac{2}{3}\pi r^3$ where r is the radius

Which solid has the greater volume?

You **must** show your working.

[4 marks]

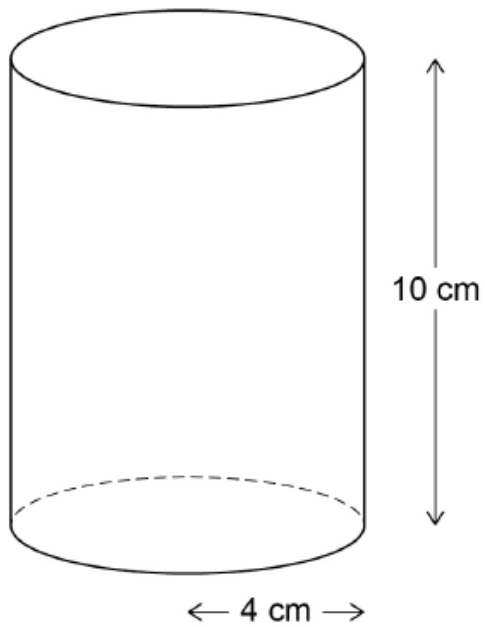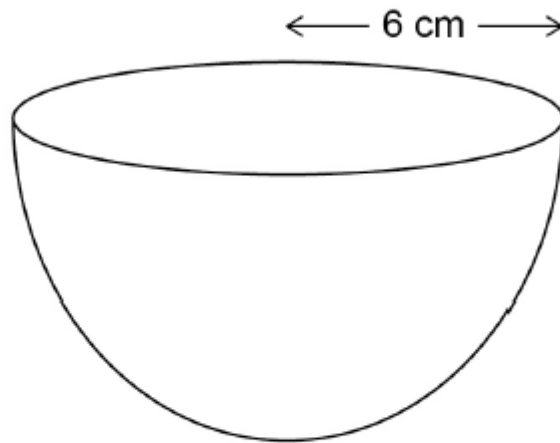Answer _____

10. Nov/2019/Paper_1H/No.9

Here are two solids.

Cylinder

radius 4 cm   height 10 cm

10 cm

← 4 cm →

Hemisphere

radius 6 cm

$\longleftarrow$ 6 cm $\longrightarrow$

volume of a hemisphere $= \dfrac{2}{3}\pi r^3$ where r is the radius

Which solid has the greater volume?

You **must** show your working.

[4 marks]

_____

_____

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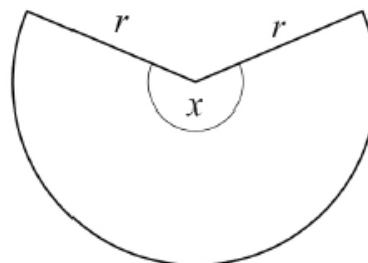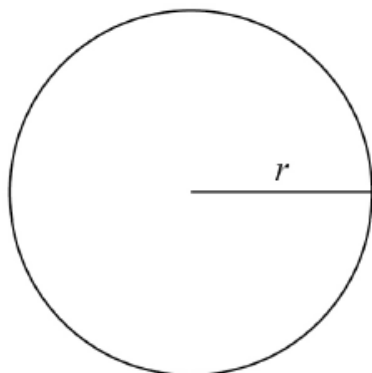
_____

_____

_____

Answer _____

Which solid has the greater volume?

You **must** show your working.

11. Nov/2019/Paper_1H/No.26

Here are a circle and a sector of the circle.

They each have radius r.

Not drawn accurately

circumference of circle = perimeter of sector

Work out the size of angle x.

Give your answer in terms of π

[4 marks]

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Answer _____ degrees