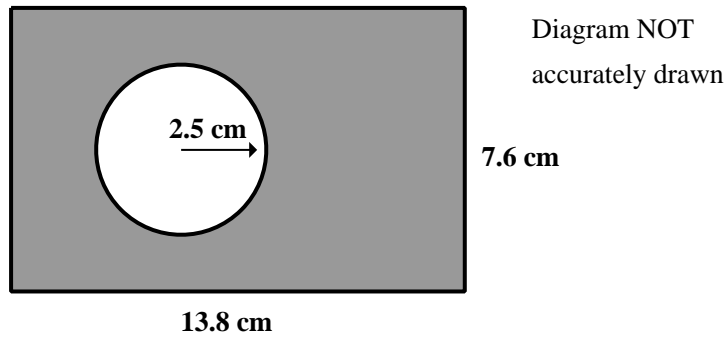# Grade Grabber 5

Marks Available : 40

Question 1

GCSE Examination Question from May 2016, Paper 3H, Q10 (Edexcel)

The diagram shows a circle inside a rectangle
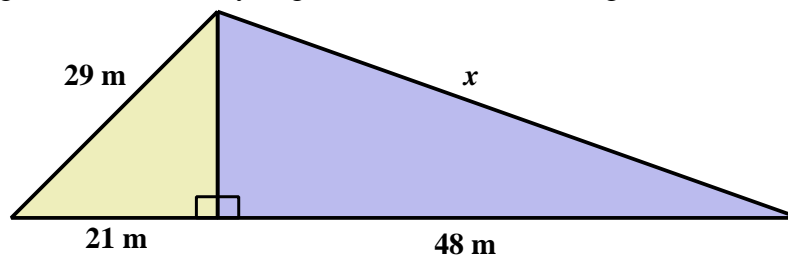
Diagram NOT
accurately drawn

2.5 cm

7.6 cm

13.8 cm

Work out the area of the shaded region

Give your answer to 3 significant figures

[3 marks]

Question 2

By using the theorem of Pythagoras' twice, find the length of the side marked x
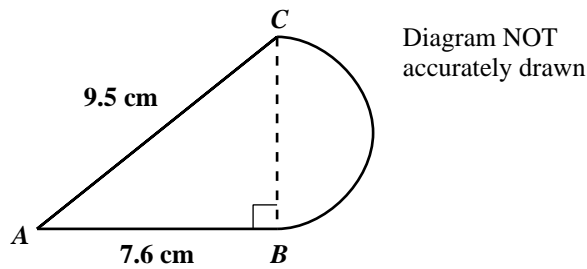
29 m

x

21 m

48 m

[3 marks]

Question 3

GCSE Examination Question from January 2014, Paper 3H, Q12 (Edexcel)

The diagram shows a shape made from triangle *ABC* and a semicircle with diameter *BC*

Diagram NOT accurately drawn

Triangle *ABC* is right-angled at *B*

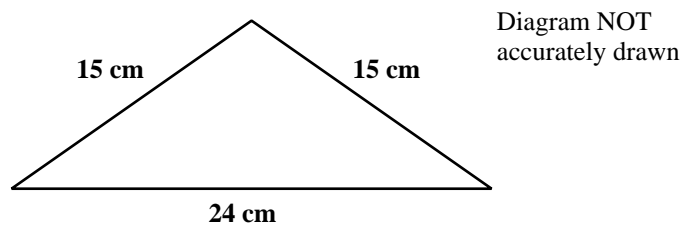*AB* = 7.6 cm and *AC* = 9.5 cm

Calculate the area of the shape

Give your answer correct to 3 significant figures

[3 marks]

Question 4

GCSE Specimen Examination Question, 2018, Paper 1H, Q9 edited (Edexcel)

The diagram shows an isosceles triangle

Diagram NOT accurately drawn

Work out the area of the triangle

[3 marks]

Question 5
GCSE Specimen Examination Question from 2018, Paper 2F, Q12 (Edexcel)
The width of a rectangle is 8 cm less than the length of the rectangle
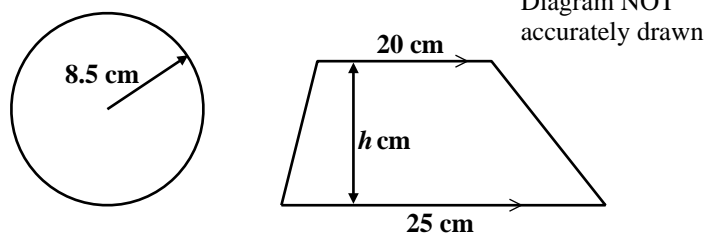The perimeter of the rectangle is 54 cm
Find the area of the rectangle

[4 marks]

Question 6
GCSE Specimen Examination Question, from 2018, Paper 2H, Q2 (Edexcel)
The diagram shows a circle and a trapezium

Diagram NOT
accurately drawn

8.5 cm
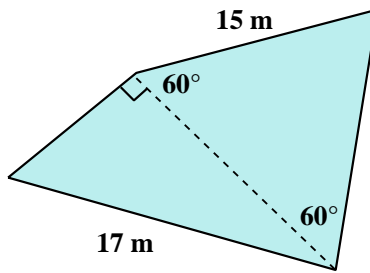
20 cm

h cm

25 cm

The height of the trapezium is h cm
The area of the circle is equal to the area of the trapezium

Work out the value of h
Give your answer correct to 1 decimal place

[4 marks]

Question 7

15 m

60°

60°

17 m

Calculate the perimeter of this shape
Explain your method and show full working at each stage

Question 8

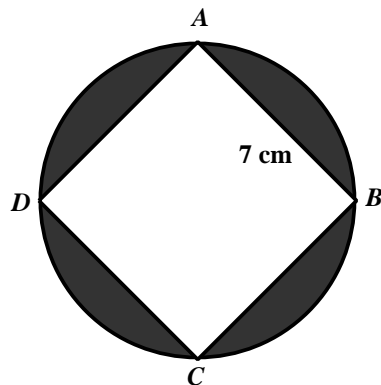*GCSE Examination Question from June 2017, Paper 4H, Q11 (Edexcel)*

A

D

B

7 cm

C

Diagram NOT
accurately drawn

A, *B, C* and *D* are points on a circle
ABCD is a square of side 7 cm
Work out the total area of the shaded regions
Give your answer correct to the nearest whole number

Question 9

The solutions of a quadratic equation, $ax^2 + bx + c = 0$ can be found by use of the formula,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Show how you would use this formula to determine the solutions of the quadratic equation;

$$x^2 + 6x - 11 = 0$$

writing your answer in the form $x = p \pm q\sqrt{r}$, for integer values of p, q and r

Question 10

Find the two points at which the straight line with equation; $y = 3x + 4$ intersects the ellipse with equation;

$$y^2 + 5x^2 = 6$$

[5 marks]

Question 11

GCSE Examination Question from June 2015, Paper 3H, Q11 (Edexcel)
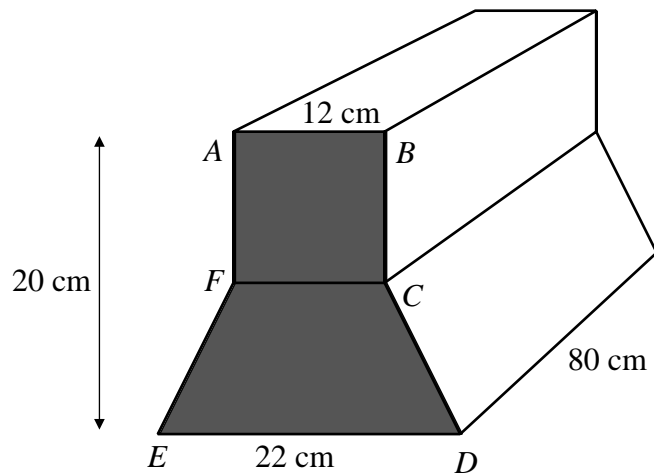
Here is a prism

Diagram NOT accurately drawn

ABCDEF is a cross section of the prism

ABCF is a square of side 12 cm

FCDE is a trapezium
ED = 22 cm

The height of the prism is 20 cm
The length of the prism is 80 cm

Work out the total volume of the prism

[5 marks]