AREA OF A TRIANGLE

GRADE 7

Examination Practice Questions

You should have:

A ruler, protractor, compasses, a pen, pencil, eraser, calculator.
For some questions, you may need tracing paper.

Instructions

- Use **black** ink or ball-point pen.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may be used.**

Information

- The marks for each question are shown in brackets.
- Use the number of marks for each question as a guide as to how much time to spend on each question. As a rough guide, you can multiply the number of marks by 1.2 to see how many minutes you should spend on a question.
- Questions been carefully compiled from or modelled on a variety of past papers and will generally get more challenging as the document progresses. Some of the later questions will go beyond the core grade level for this topic.

Advice

- Read each question carefully before you start to answer it.
- Don’t forget to have fun.
- Check your answers at the end.

Q1. AtoZrevision.com

ABC is a triangle.

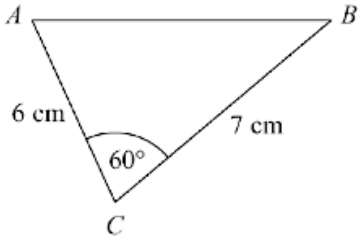


Diagram **NOT** accurately drawn

Work out the area of triangle *ABC*.
Give your answer correct to 3 significant figures.

……..

(2 marks)

Q2. AtoZrevision.com

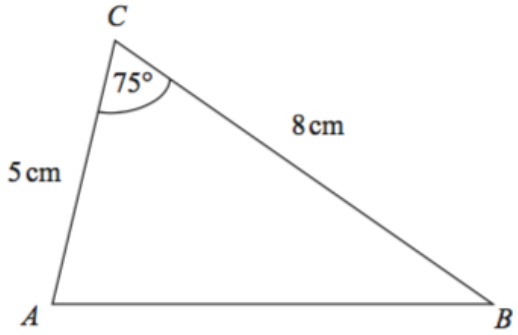


Diagram **NOT** accurately drawn

In triangle *ABC*,

AC = 5 cm.
BC = 8 cm.
Angle *ACB* = 75°.

Calculate the area of triangle *ABC*.
Give your answer correct to 3 significant figures.

……..

(2 marks)

Q3. AtoZrevision.com

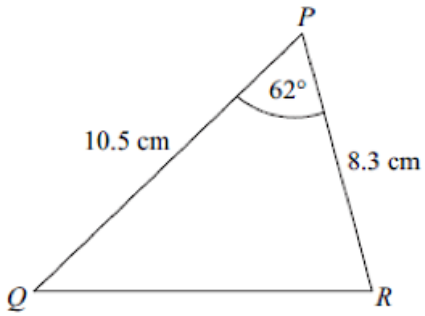


Diagram **NOT** accurately drawn

In triangle *PQR*,

PQ = 10.5 cm, *PR* = 8.3 cm, Angle *QPR* = 62°.

Calculate the area of triangle *PQR*. Give your answer correct to 3 significant figures.

……..

(2 marks)

Q4. AtoZrevision.com

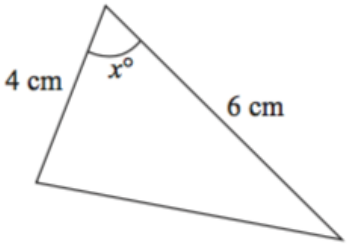


Diagram **NOT** accurately drawn

The area of the triangle is 6.75 cm^2.
The angle $x°$ is acute.

Find the value of x.
Give your answer correct to 1 decimal place.

……..

(3 marks)

Q5. AtoZrevision.com

The diagram shows an equilateral triangle.

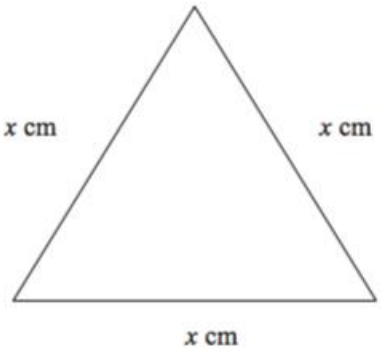


Diagram **NOT** accurately drawn

The area of the equilateral triangle is 36 cm^2.

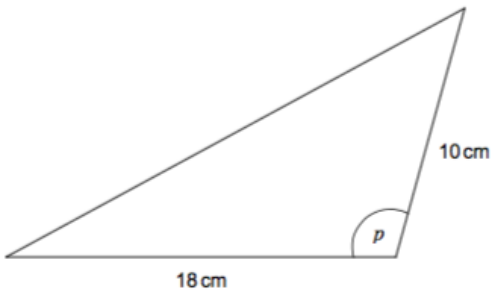
Find the value of x. Give your answer correct to 3 significant figures.

.....

(3 marks)

Q6. AtoZrevision.com

The area of this triangle is 27 cm^2



Not drawn accurately

Work out the size of obtuse angle p.

.....

(3 marks)

Q7. AtoZrevision.com

The diagram shows parallelogram *EFGH*.

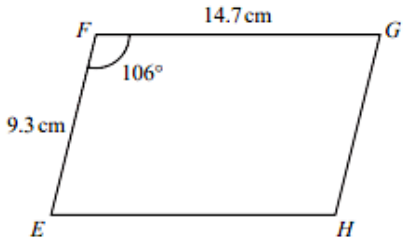


Diagram **NOT** accurately drawn

EF = 9.3 cm
FG = 14.7 cm
Angle *EFG* = 106°

Work out the area of the parallelogram.
Give your answer correct to 3 significant figures.

……..

(2 marks)

Q8. AtoZrevision.com

Town B is 73 km from Town A on a bearing of 069°
Town C is 64 km from A on a bearing of 112°

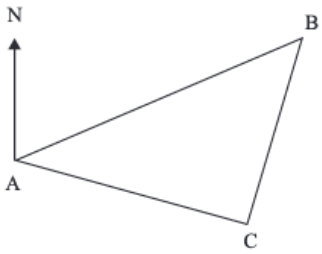


diagram not drawn accurately

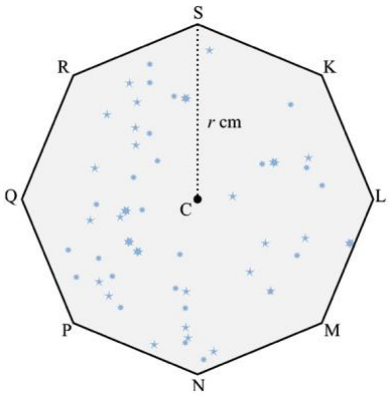
Calculate the area of triangle ABC.

……..

(2 marks)

Explorers in the 18th Century used the stars to help them navigate the oceans. They used a chart similar to one shown below, which shows a regular octagon.

The distance from the centre, C, of the octagon to each vertex is r cm.



Find an expression for the area of the octagon, in terms of r.

……..

(3 marks)

The diagram shows a metal plate.

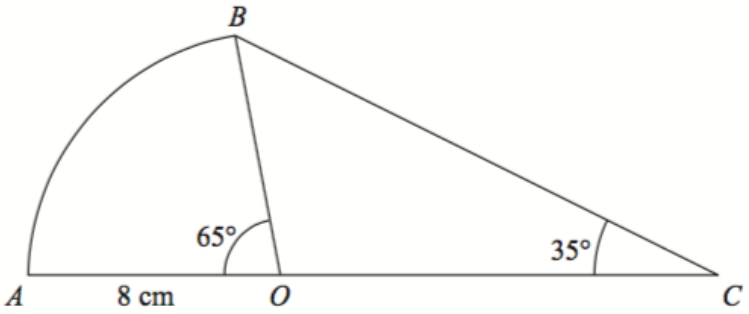


Diagram **NOT** accurately drawn

The metal plate is made from a sector *OAB* of a circle, centre *O*, and a triangle *OCB*.

Angle *AOB* = 65° Angle *OCB* = 35°.
OA = *OB* = 8 cm.
AOC is a straight line.

Given that $BC = 12.6$ cm correct to 3 significant figures, calculate the total area of the metal plate.
Give your answer correct to 3 significant figures.

……..

(4 marks)

A, B and C are points on a circle with centre O.

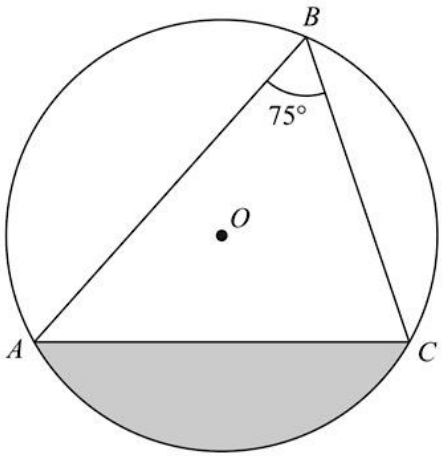


Diagram **NOT** accurately drawn

Angle $ABC = 75º$

The area of the shaded segment is 200 cm ^{2}

Calculate the radius of the circle.
Give your answer correct to 3 significant figures.

……..

(5 marks)

$ABCD$ is a quadrilateral.

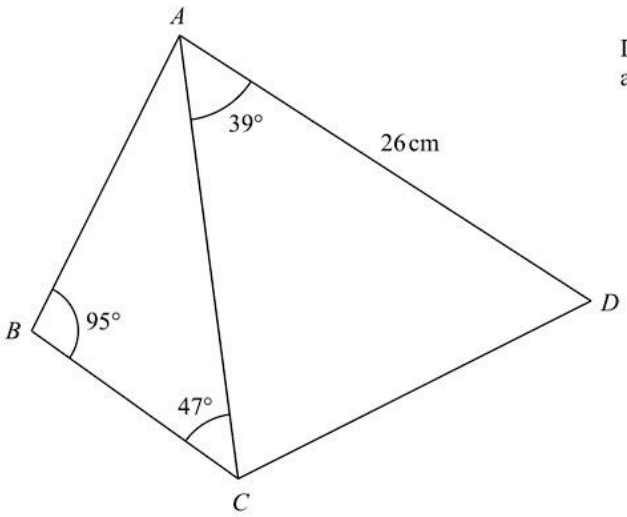


Diagram **NOT** accurately drawn

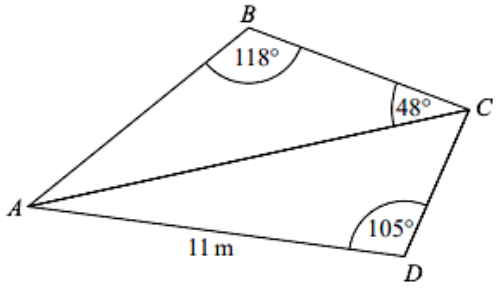
The area of triangle ACD is 250 cm ^{2}.

Calculate the area of the quadrilateral $ABCD$.
Give your answer correct to 3 significant figures.

……..

(6 marks)

ABC and ADC are triangles.



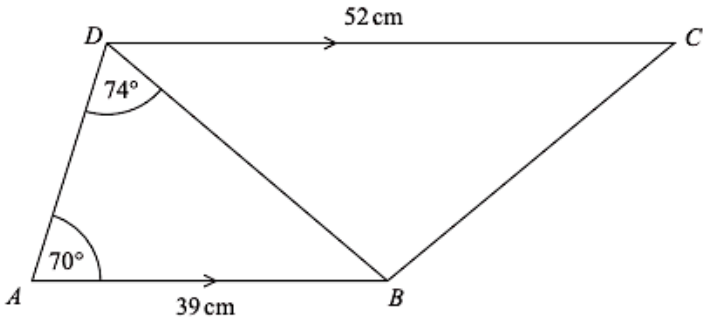
The area of triangle ADC is 56 m^2

Work out the length of AB.
Give your answer correct to 1 decimal place.

……..

(5 marks)

Here is trapezium $ABCD$.



AB and DC are parallel.

Work out the area of triangle BCD.
Give your answer correct to 3 significant figures.

……..

(5 marks)

Triangle *DEC* lies within a square *ABCD*, as shown below.
DE = 8cm and *EC* = 9cm. Angle *DEC* = 75°.

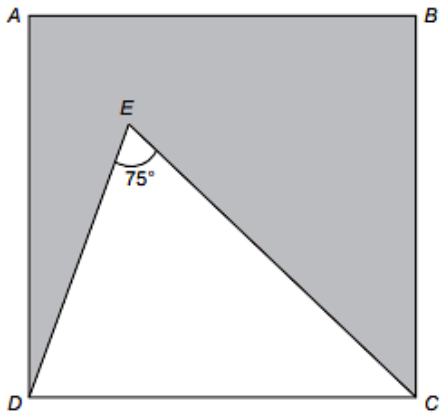


Diagram not drawn to scale

Calculate the area of the shaded region.

……..

(7 marks)

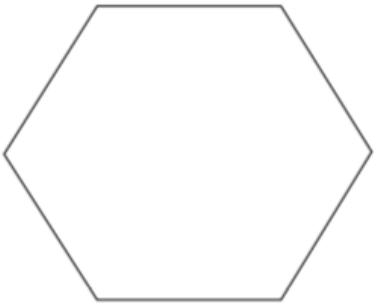


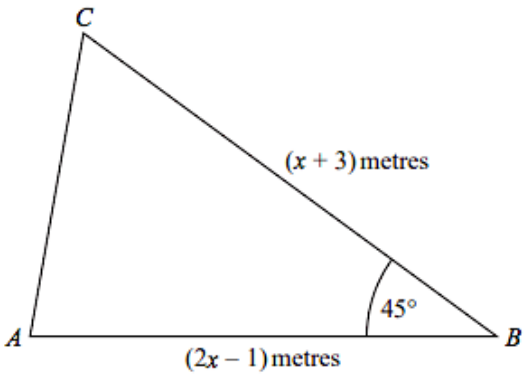
Diagram **NOT** accurately drawn

The diagram shows a regular hexagon.
The perimeter of the hexagon is 42 cm.

Calculate the area of the hexagon.
Give your answer correct to 3 significant figures.

……..

(5 marks)



The area of triangle *ABC* is $6\sqrt{2}$ m^2.

Calculate the value of x.
Give your answer correct to 3 significant figures.

……..

(5 marks)