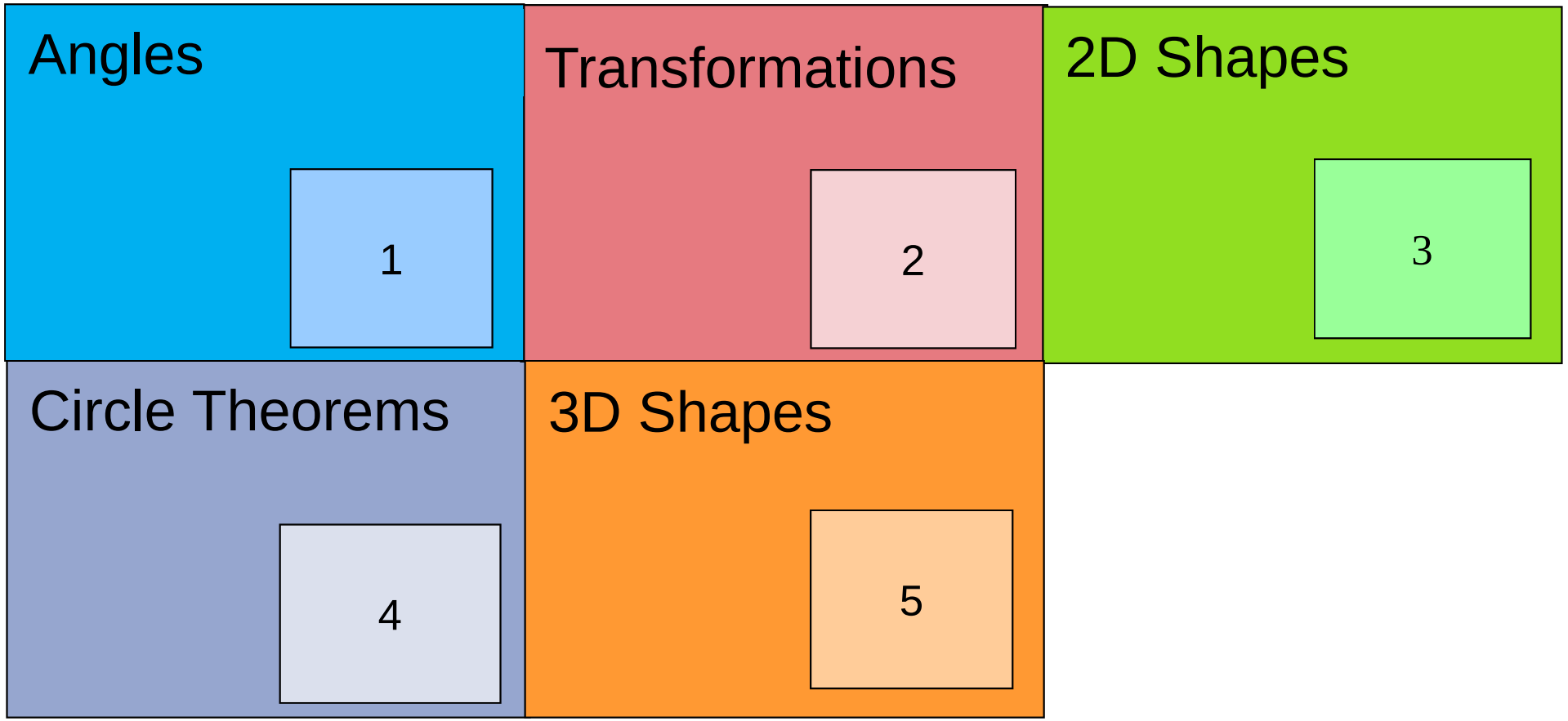
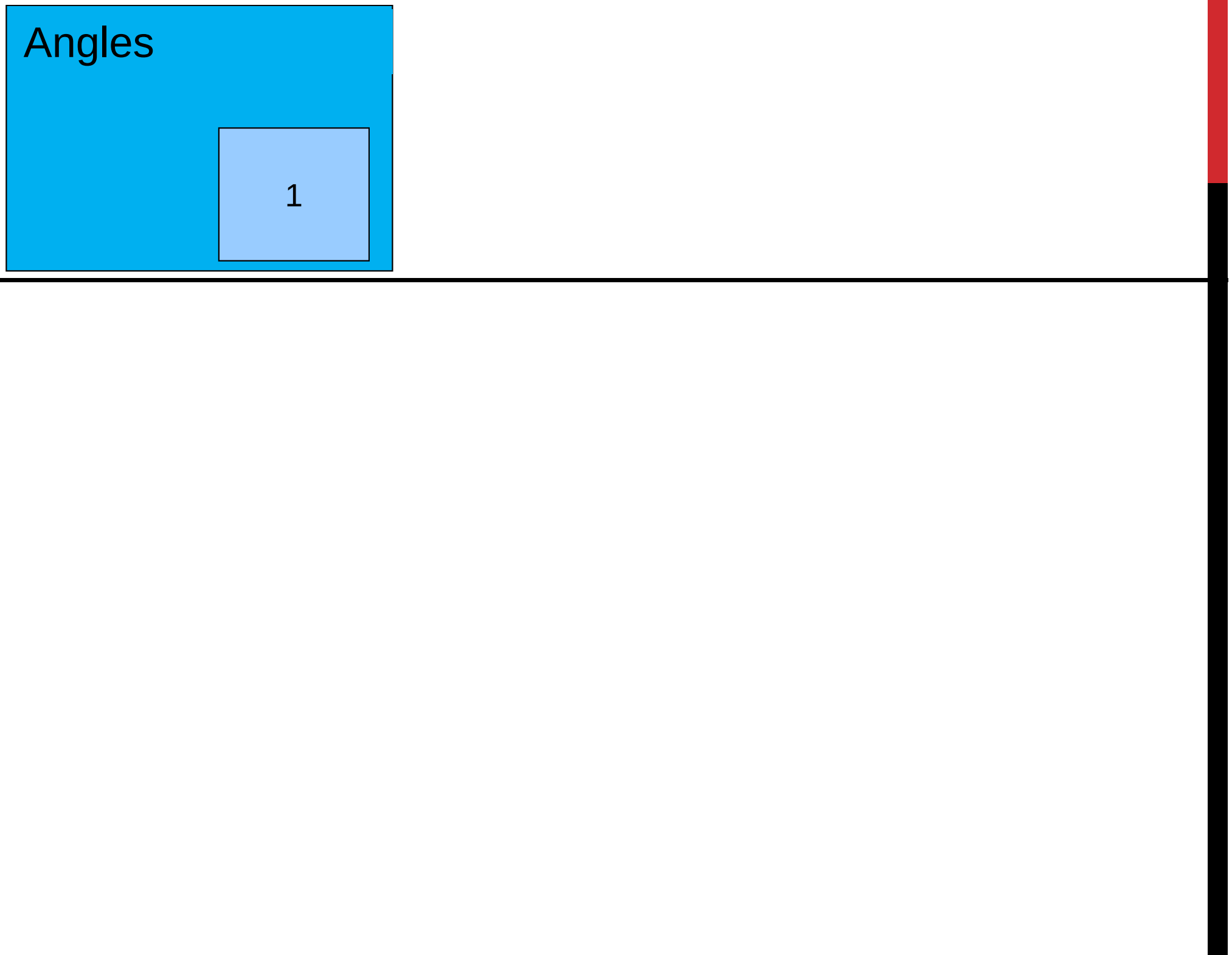
TOPICS – GEOMETRY 1

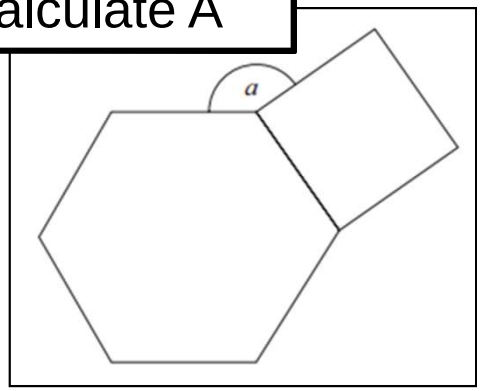



Angles
1

The diagram shows part of a **regular** 10-sided polygon.

Work out the size of the angle marked x.

Calculate A



Calculate the missing angles

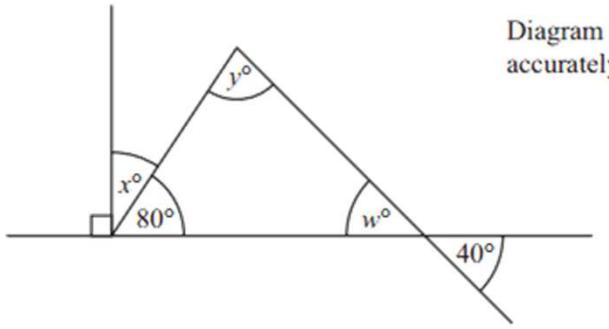
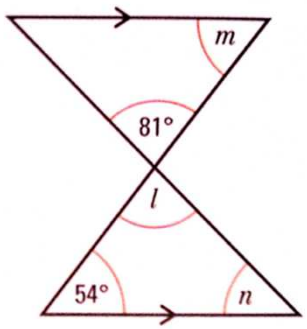
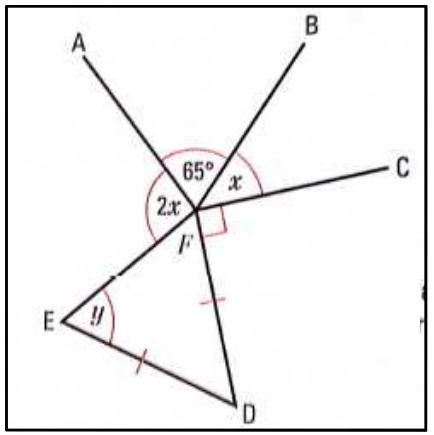


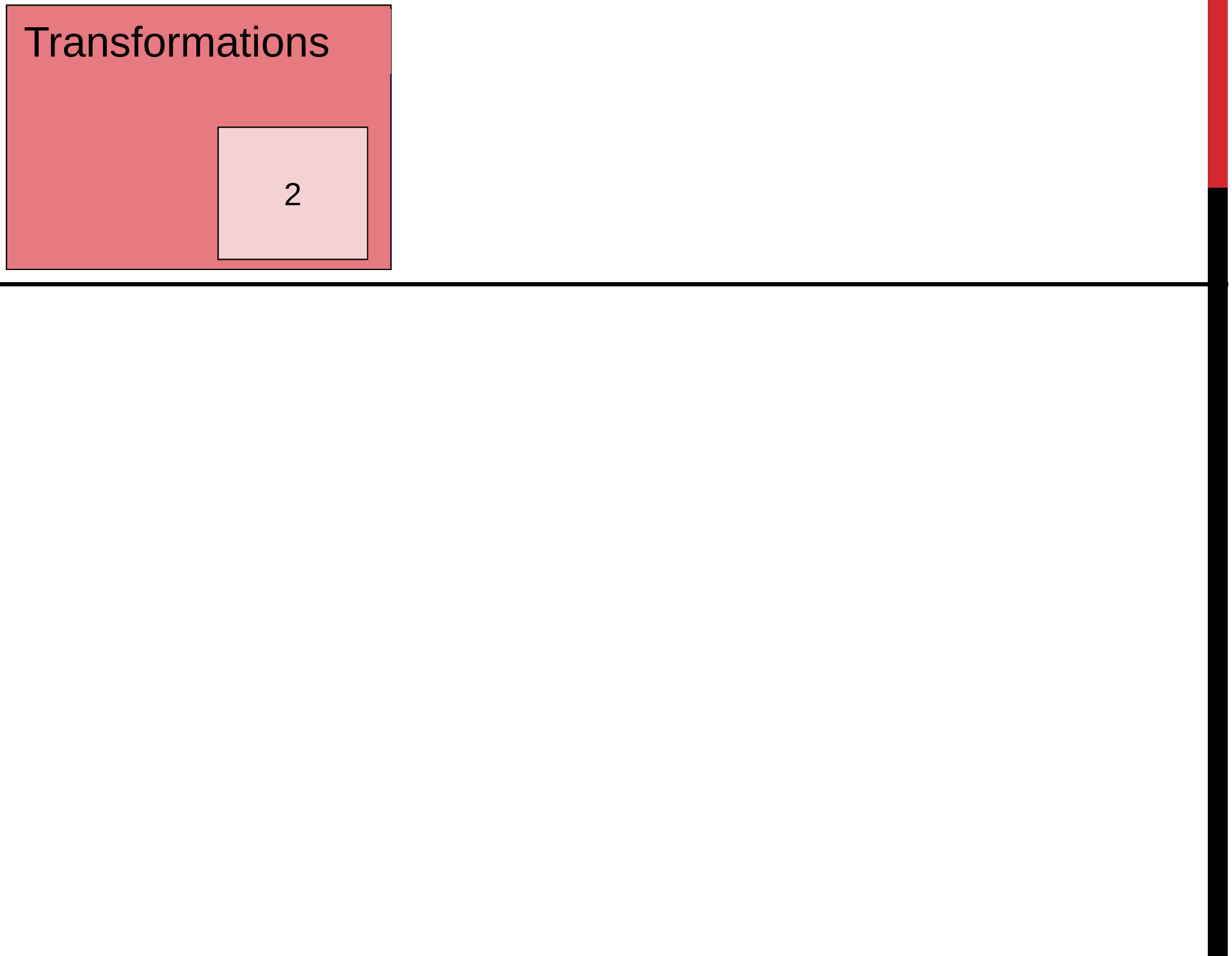
Diagram **NOT** accurately drawn

Calculate the missing angles

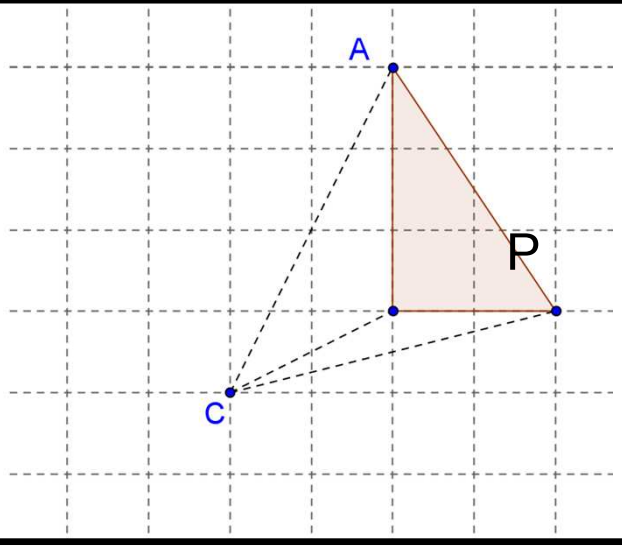




Show that y = (205-3x)°

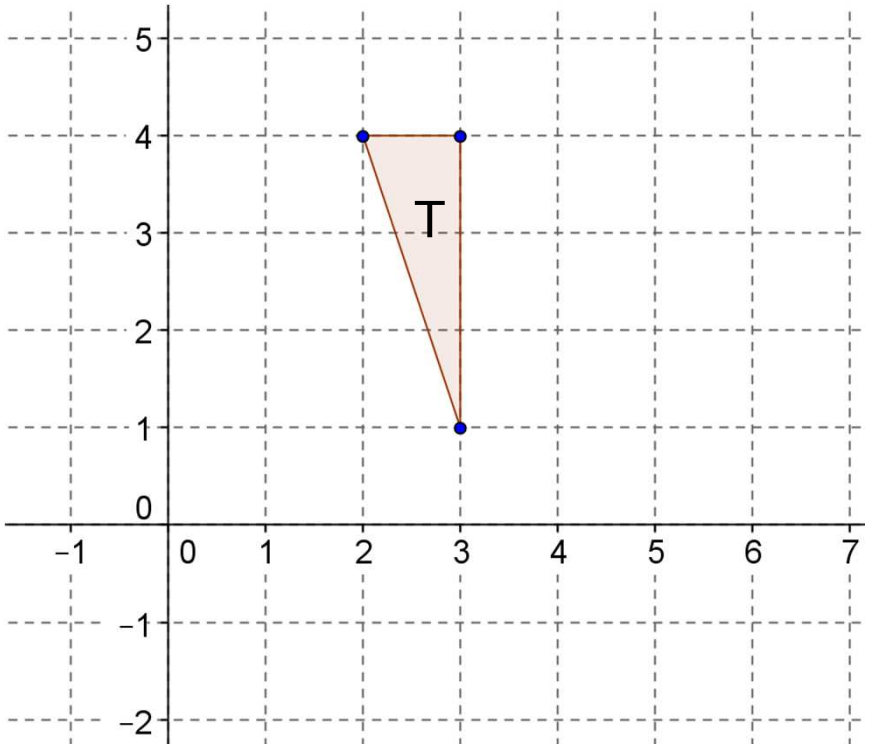

Transformations
2

Enlarge shape P by scale factor $\frac{1}{2}$. Label it Q

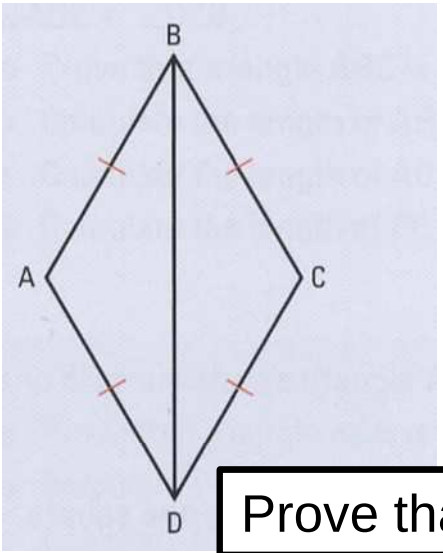


Enlarge shape P by scale factor - $\frac{1}{2}$. Label it R

Rotate T 180º about (2,1). Label it U
Translate U by vector $\binom{3}{4}$. Label it V



Fully describe the single transformation which maps T to V



Prove that ADB is congruent to CDB

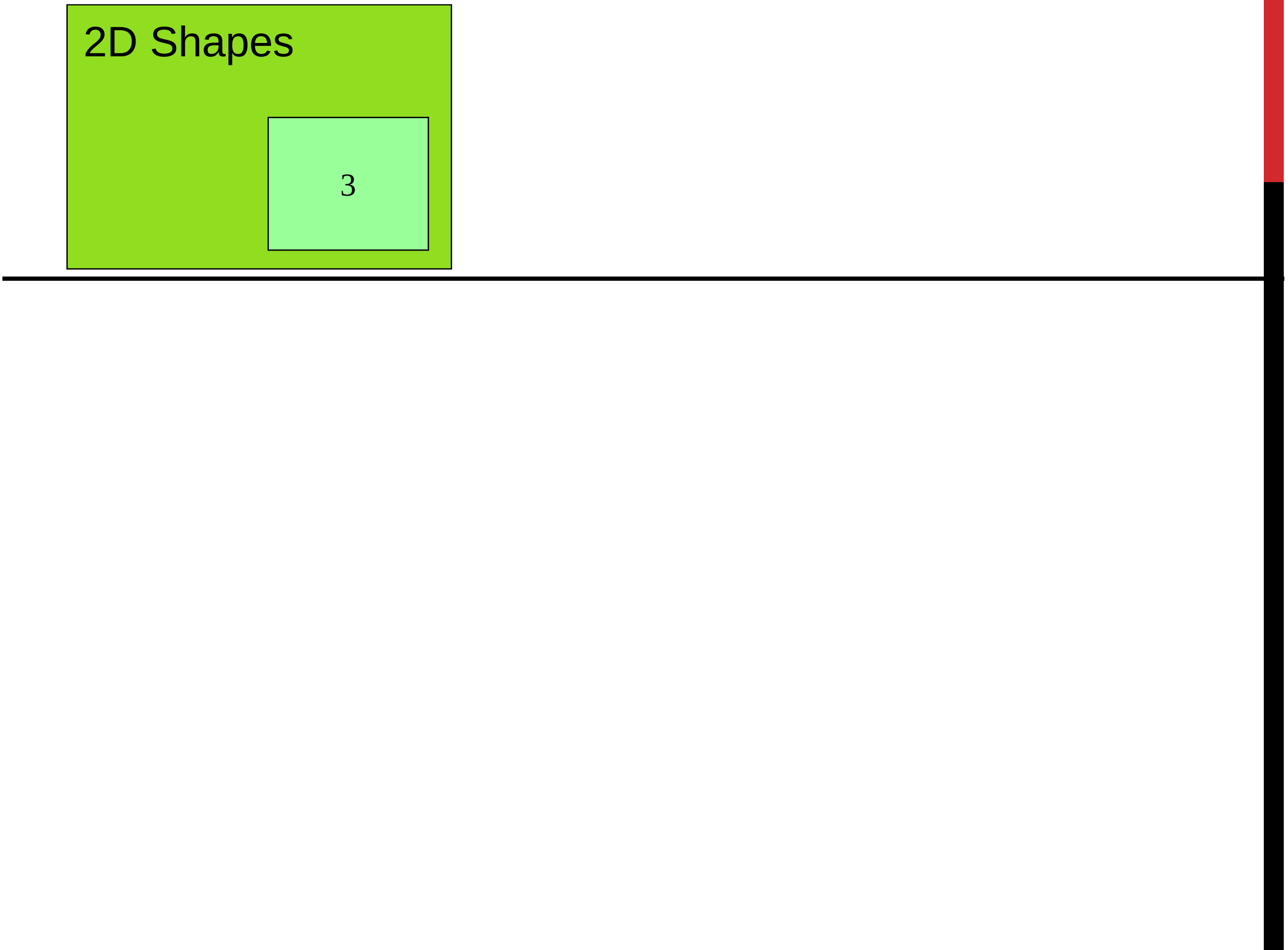
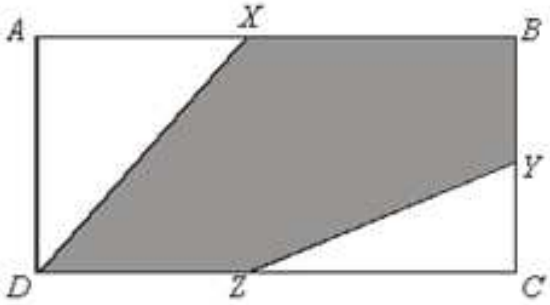
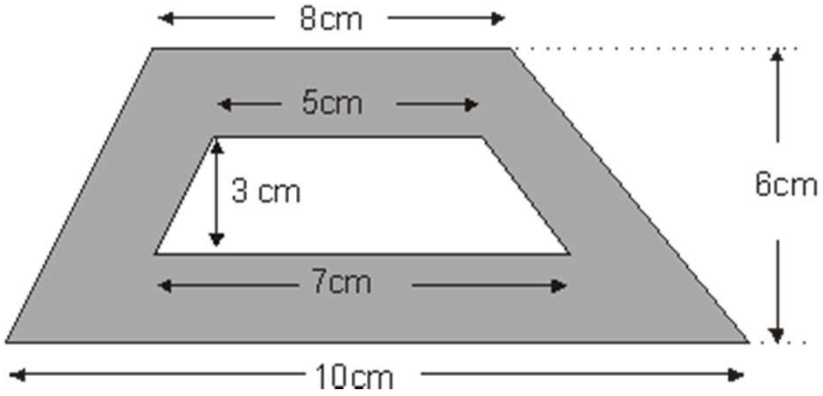

2D Shapes
3

Diagram **NOT** accurately drawn



$ABCD$ is a rectangle.
X is the midpoint of AB.
Y is the midpoint of BC.
Z is the midpoint of CD.

What fraction of the total area of $ABCD$ is shaded?

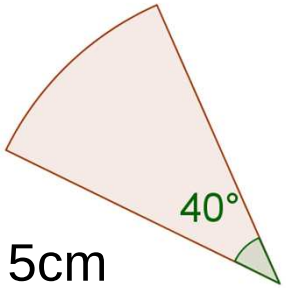


A trapezium-shaped hole is cut in a trapezium-shaped card. Work out the area of the shaded region.

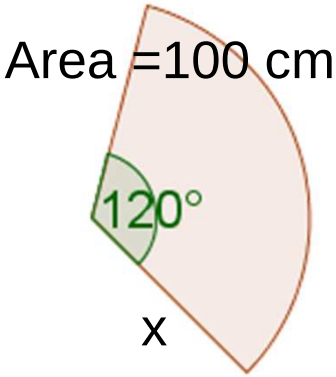
..... cm^2

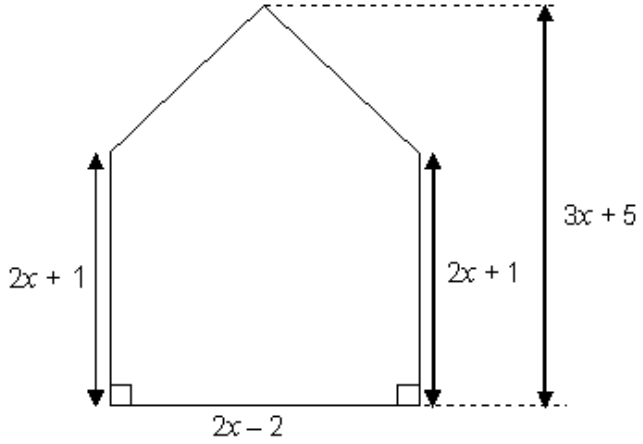
(Total 3 marks)

Calculate the arc length:



Calculate x





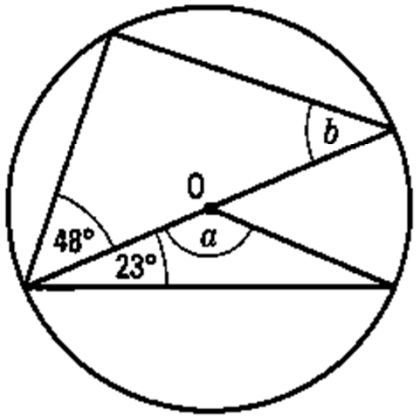
Show that the area of the pentagon can be written as $5x^2 + x - 6$

Circle Theorems

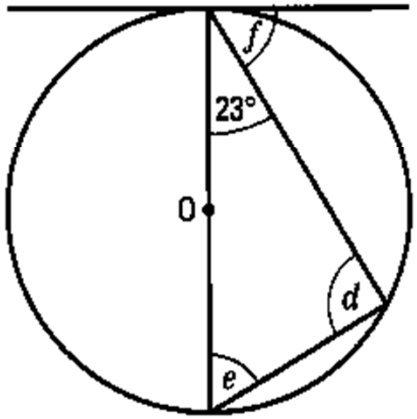
4

Find the size of each of the angles marked with a letter.
O is the centre of the circle, where marked.

3



4



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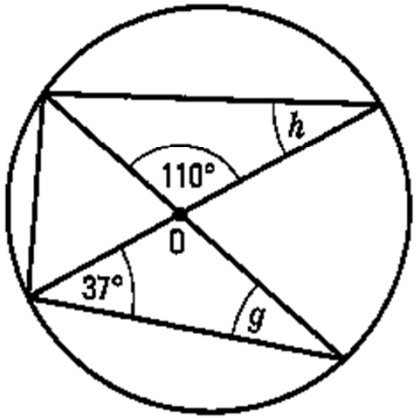
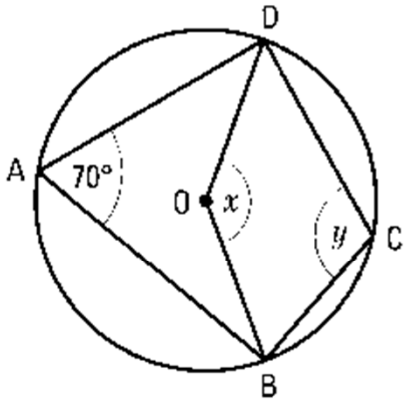


In the diagram, A, B, C and D are points on the circumference of a circle, centre O.
Angle BAD = 70°. Angle BOD = x°. Angle BCD = y°.

a i Work out the value of x. ii Give a reason for your answer.

b i Work out the value of y. ii Give a reason for your answer.

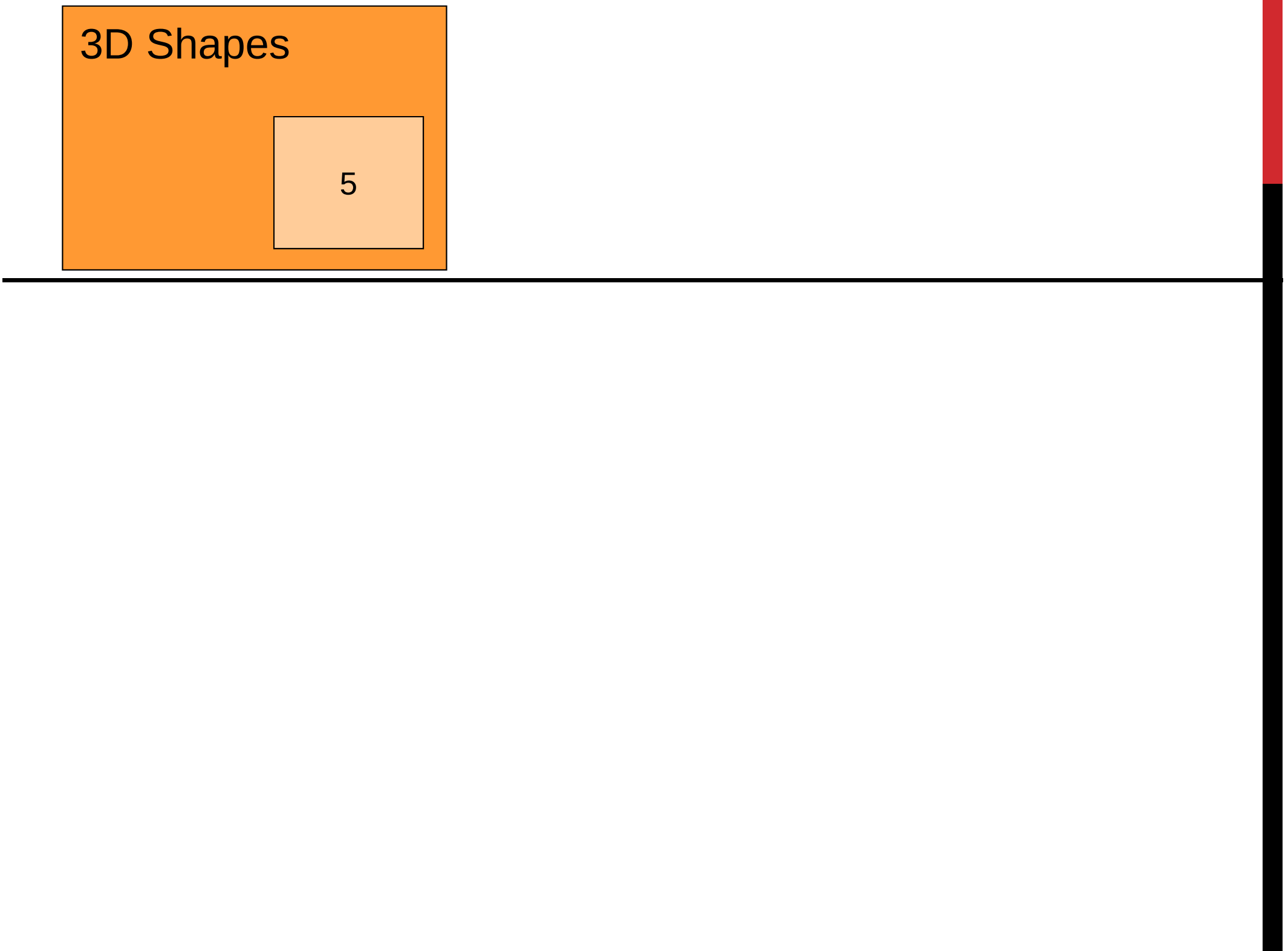


Plus

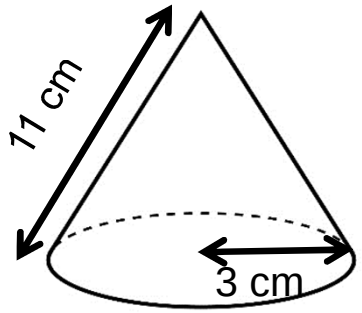
Exam Question Report

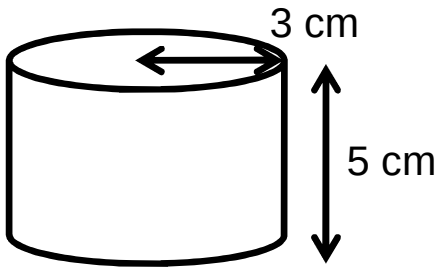
77% of students answered this question poorly as they had not learnt circle theorems correctly.

June 2008


3D Shapes
5

Calculate the total surface areas





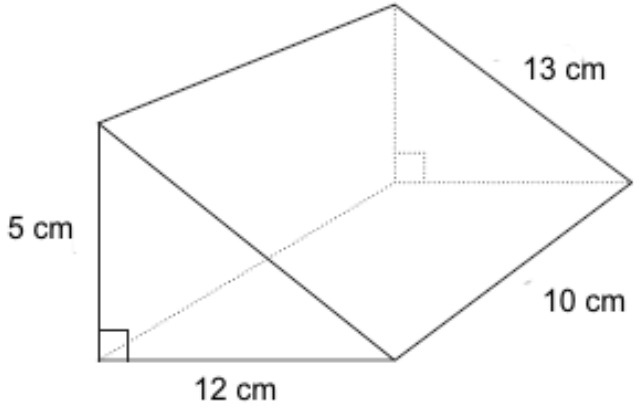
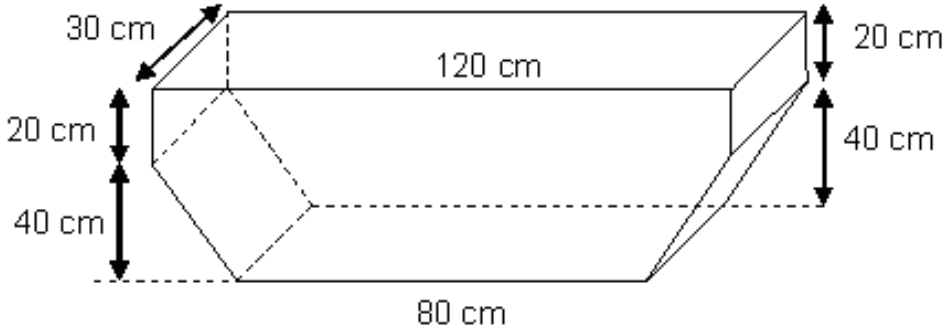


Diagram **NOT** accurately drawn

Work out the total surface area of this triangular prism.



A full water tank is slowly emptied. In 2 hours the water falls 20cm. How long will it take to empty completely