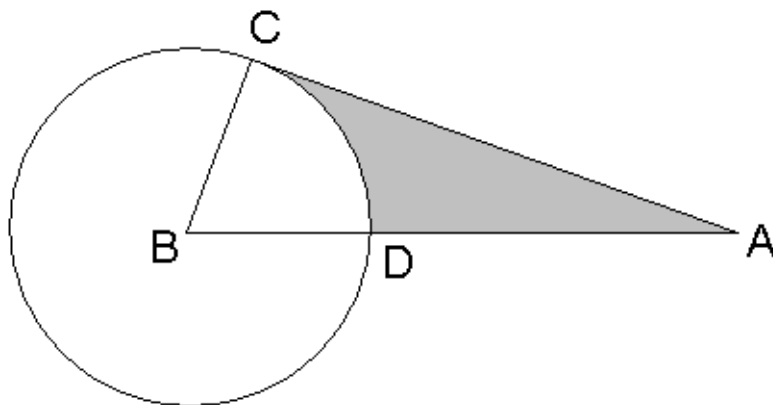


Name:

QUIZ 27 – MATH IB HL

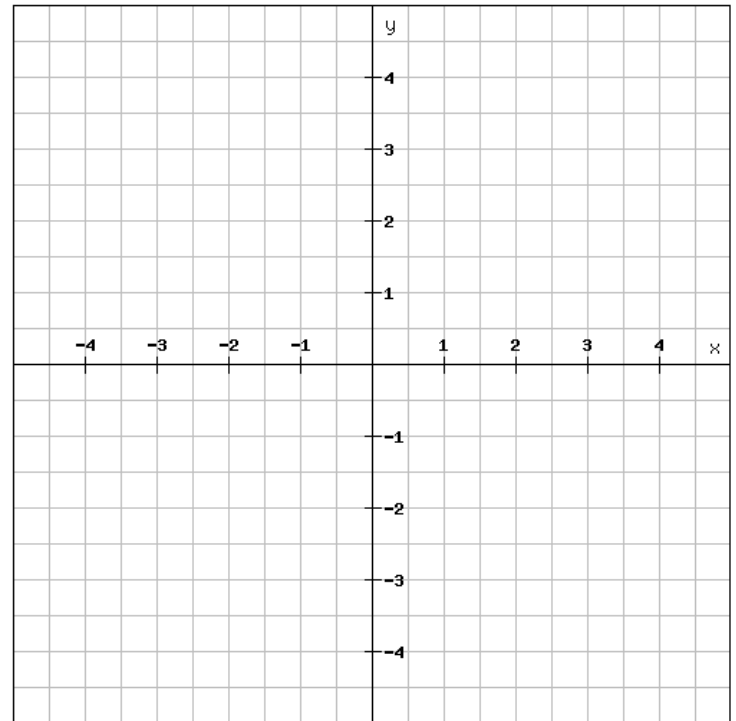
1. (6 marks) Given a triangle ABC in which $AB = 8$ cm, $BC = 10$ cm and the angle ABC is obtuse. It is known that the area of the triangle is 19 cm^2 . Find the angle ABC.
2. (6 marks) If A is an obtuse angle in a triangle and $\cos A = -\frac{1}{3}$, calculate the exact value of $\tan 2A$. **No calculator** in this question, work must be shown.

3. (6 marks) Given that the radius of the circle is 2 cm, B is the centre of the circle, AC is tangent to the circle at C and that the angle $CBD = 1$ rad. Find the area shaded. Give your answer as an expression.



4. (12 marks) Given the points A(2,1), B(-3, 0), C(1, k)

- a. (1 mark) Sketch the points on the diagram and draw the triangle formed in case $k = 3$
- b. (3 marks) Find the perimeter of the triangle in case $k = 3$



- c. (4 marks) In case $k = 3$, using the appropriate rule show that $\cos(ABC) = \frac{23}{5\sqrt{26}}$

- d. (4 marks) Given that the angle ABC is 30° , and that the area of the triangle is, $\sqrt{130}$, find k.