

Question 1

(25 marks)

- (a) The coordinates of three points are $A(2, -6)$, $B(6, -12)$, and $C(-4, 3)$.
Find the perpendicular distance from A to BC .

Based on your answer, what can you conclude about the relationship between the points A , B , and C ?

Distance: _____

Conclusion: _____

- (b) The diagram below shows two lines a and b . The equation of a is $x - 2y + 1 = 0$. The acute angle between a and b is θ . Line b makes an angle of 60° with the positive sense of the x -axis, as shown in the diagram. Find the value of θ , in degrees, correct to 3 decimal places.

