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VCE Specialist Mathematics ½

Trigonometry I [3.1]

Test

20 Marks. 20 Minutes Writing.

Results:

Test Questions	_____ / 20

Section A: Test Questions (20 Marks)

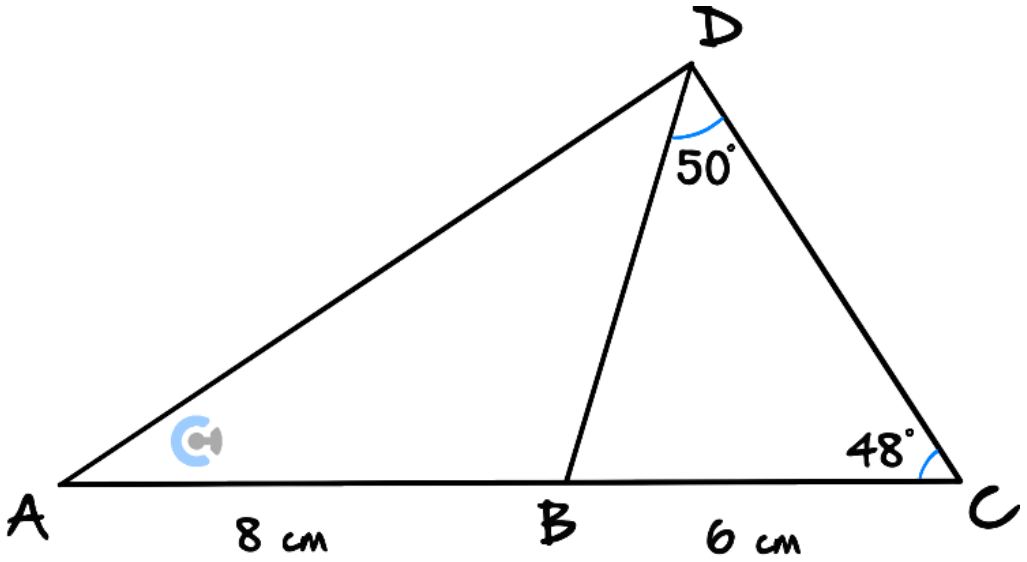
Question 1 (3 marks)

Tick whether the following statements are **true** or **false**.

Statement	True	False
a. $\sin(a) = \cos(90 - a)$ as the opposite and adjacent length flips.		
b. When the angle is 90°, the sine rule changes to Pythagoras theorem.		
c. Cosine rule can be used to find the 3rd length when you have angle OAB and two lengths OA and OB in the triangle OAB.		
d. There are two possible angles for OAB if the length of OA is 5 metres and OB is 6 metres and they are supplementary angles.		
e. Angle of depression is when the angle is measured downwards.		
f. Bearing of 300° is the same as $N\ 30°\ W$.		

Space for Personal Notes

Question 2 (6 marks) **Tech-Active.**



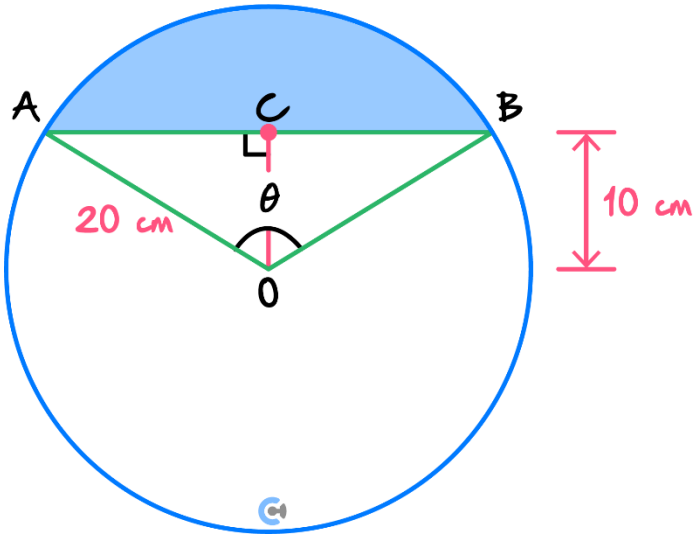
ACD is a triangle and B is a point on AC. $AB = 8\ cm$ and $BC\ is\ 6\ cm$. Angle $BCD = 48°$ and angle $BDC = 50°$.

a. Find the length of BD. Give your answer correct to two decimal places. (2 marks)

b. Find the length of AD. Give your answer correct to two decimal places. (2 marks)

c. Find the area of triangle ABD. Give your answer correct to two decimal places. (2 marks)

Question 3 (8 marks) **Tech-Active.**



a. The length of chord AB. (2 marks)

b. The length of the major arc AB. (2 marks)

c. The area of the major sector AOB. (2 marks)

d. The area of the minor segment formed by chord AB. (2 marks)

Question 4 (3 marks)

An observer on a cliff 100 m above sea level sights two ships due east. The angles of depression of the ships are 47° and 32°. Find in metres correct to one decimal places, the distance between the two ships.

Space for Personal Notes

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VCE Specialist Mathematics ½

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