

Total : / 45 marks

Question 1

[12 marks]

Complete the following table with the *exact values* of the missing trigonometric functions.

Assuming α is in région I (*acute angle*)

$\sin(\alpha)$	$\cos(\alpha)$	$\tan(\alpha)$
$\frac{\sqrt{3}}{2}$		
	$\frac{24}{25}$	
		$\frac{15}{8}$

Assuming β is in région III

$\sin(\beta)$	$\cos(\beta)$	$\tan(\beta)$
$-\frac{\sqrt{3}}{2}$		
	$-\frac{24}{25}$	
		$\frac{15}{8}$

Question 2

[12 marks]

Complete the following table with approximate values

(using your calculator and the *inverse trigonometric functions*)

α°	α rad	$\sin(\alpha)$	$\cos(\alpha)$	$\tan(\alpha)$
		0.866		
			0.96	
				1.875

Question 3

[12 marks]

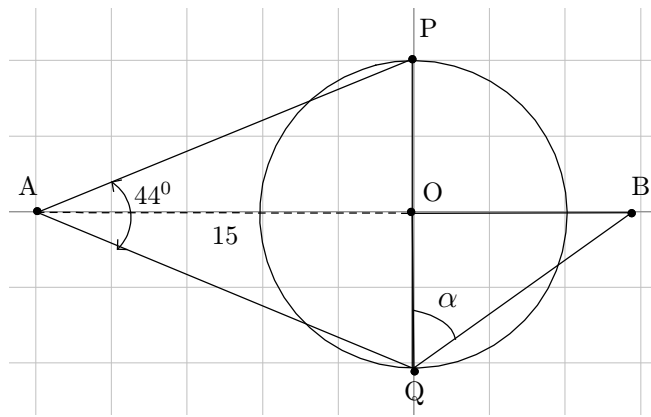
P and Q are placed on a circle of center O, and $\widehat{POQ} = 180^\circ$.

A is at 15cm of O, and $\widehat{AOQ} = 90^\circ$, $\widehat{QAP} = 44^\circ$

B is at x cm of O and $\widehat{AOB} = 180^\circ$

i) Given $x = 9$ cm, find α (angle \widehat{BQO}).

ii) Find angle \widehat{APB} .

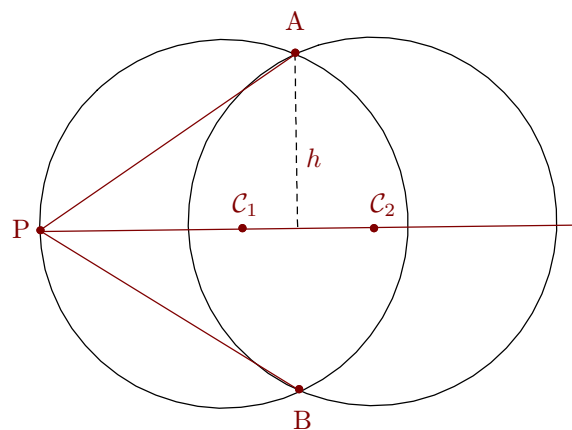


Question 4

[9 marks]

Given that :

- Two circles of center C_1 and C_2 have same radius $r_1 = r_2 = 4$ cm.
- The distance between the centers is : $d(C_1, C_2) = 3$ cm
- A and B are the intersections of the two circles.
- P is in the intersection of the first circle and the line by C_1, C_2 .



i) Find angle \widehat{APB} .

ii) (Bonus) Find the area of triangle PAB.

[+3]