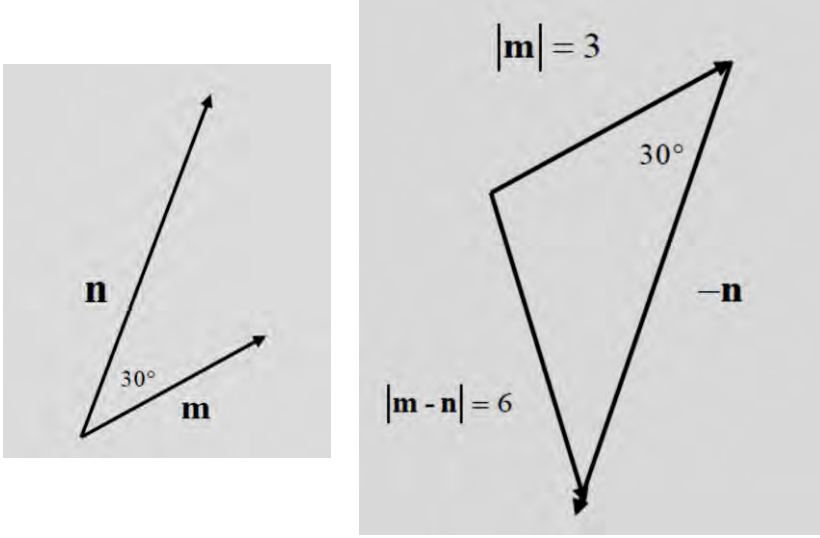


Question	Scheme	Marks	AOs
16(i)	Explains that a and b lie in the same direction or	B1	2.4
		(1)	
(ii)		M1	1.1b
	Attempts $\frac{\sin 30^\circ}{6} = \frac{\sin \theta}{3}$	M1	3.1a
	$\theta = \text{awrt } 14.5^\circ$	A1	1.1b
	Angle between vector m and vector m - n is awrt 135.5°	A1	3.2a
		(4)	

(5 marks)

Notes

(i)

B1: Accept any valid response E.g The lines are collinear. Condone "They are parallel"

Mark positively. ISW after a correct answer

Do not accept "the length of line $a + b$ is the same as the length of line $a +$ the length of line b

Do not accept $|a|$ and $|b|$ are parallel.

(ii)

M1: A triangle showing 3, 6 and 30° in the correct positions.

Look for 6' opposite 30° with another side of 3.

Condone the triangle not being obtuse angled and not being to scale.

Do not condone negative lengths in the triangle. This would automatically be M0

M1: Correct sine rule statement with the sides and angles in the correct positions.

If a triangle is drawn then the angles and sides must be in the correct positions.

This is not dependent so allow recovery from negative lengths in the triangle.

If the candidate has not drawn a diagram then correct sine rule would be M1 M1

Do not accept calculations where the sides have a negative length. Eg $\frac{\sin 30^\circ}{6} = \frac{\sin \theta}{-3}$ is M0

A1: $\theta = \text{awrt } 14.5^\circ$

A1: CSO awrt 135.5°