

## CC1 Maths Sheet 1

### Q1

- (1)  $\sin 4/5 = .717$
- (2)  $\cos 3/5 = .825$
- (3)  $\tan 4/3 = 4.132$
- (4) Angle  $\theta = \tan(4/3)^{-1} = 53.13^\circ$  Degrees

### Q2

(1)  $\cos^{-1} 11/26 = 64.97^\circ$  Degrees

(2)  $x^2 + 11^2 = 26^2$

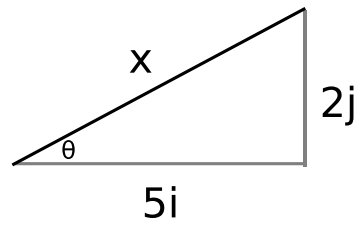
$$x^2 = 676 - 121$$

$$x = \sqrt{676 - 121}$$

$$x = 23.56$$

## CC1 Maths Sheet 2

Q1 (i)

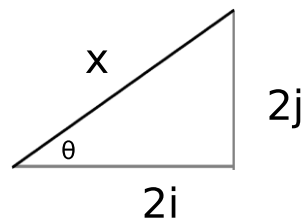


$$x = \sqrt{5^2 + 2^2} \quad x = \sqrt{29}$$

$$x = 5.39$$

$$\tan^{-1}\left(\frac{2}{5}\right) = 21.8^\circ$$

(ii)

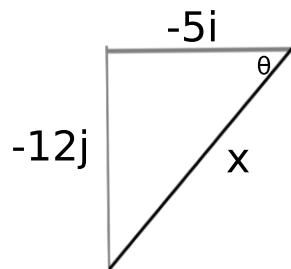


$$x = \sqrt{2^2 + 2^2} \quad x = \sqrt{8}$$

$$x = 2.83$$

$$\tan^{-1}\left(\frac{2}{2}\right) = 45^\circ$$

(iii)

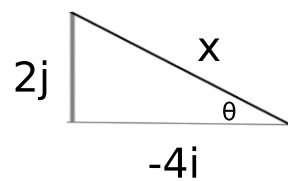


$$x = \sqrt{12^2 + 5^2} \quad x = \sqrt{169}$$

$$x = 13$$

$$\tan^{-1}\left(\frac{12}{5}\right) = 67.38^\circ$$

(iv)

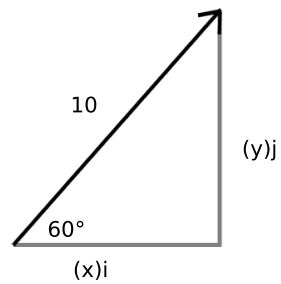


$$x = \sqrt{2^2 + 4^2} \quad x = \sqrt{20}$$

$$x = 4.47$$

$$\tan^{-1}\left(\frac{2}{4}\right) = 26.57^\circ$$

Q2 (i)



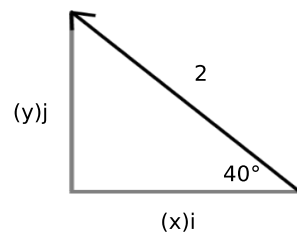
$$\sin(60) = \frac{y}{10} \quad .866 = \frac{y}{10}$$

$$y = 8.66j$$

$$\cos(60) = \frac{x}{10} \quad .5 = \frac{x}{10}$$

$$x = 5i$$

(ii)



$$\sin(40) = \frac{y}{2} \quad .642 = \frac{y}{2}$$

$$y = 1.28j$$

$$\cos(40) = \frac{x}{2} \quad .766 = \frac{x}{2}$$

$$x = 1.53 \quad x = -1.53i$$

Q3 (i)  $(3i - j) + (2i - 3j) = 5i - 4j$

(ii)  $2(3i - j) - 3(2i - 3j)$

$$(6i - 2j) - (6i - 9j) = 0i + 7j$$

$$Q4(i) \frac{3i+4j}{\sqrt{25}} = \frac{3i+4j}{5}$$

$$(ii) \frac{-3i-j}{\sqrt{10}}$$

Q5

$$m_1 = 6/2 \quad m_2 = -1/3$$

$$m_1 * m_2 = 6/2 * -1/3 = -1$$

Q6

$$m_1 = p/4 \quad m_2 = -2/1$$

$$m_1 * m_2 = p/4 * -2/1 = -1$$

$$p/4 = -1/-(2/1) = 1/2$$

$$p = 1/2 * 4$$

$$p = 2$$

## Exercise 2

These are the corrected vectors

