

Question	Scheme	Marks	AOs
2(a)	Resultant force = $(-3\mathbf{i} + 4\mathbf{j})$ (N)	B1	1.1b
		(1)	
(b)	$(-3\mathbf{i} + 4\mathbf{j}) = 0.25\mathbf{a}$ OR $ \mathbf{R} = 0.25 \mathbf{a} $	M1	3.1a
	$ \mathbf{a} = 4\sqrt{(-3)^2 + (4)^2}$ OR $ \mathbf{R} = \sqrt{(-3)^2 + (4)^2}$	M1	1.1b
	$ \mathbf{a} = 20(\text{ms}^{-2})$	A1	1.1b
		(3)	
(c)	$\mathbf{F}_3 = (3\mathbf{i} - 4\mathbf{j})$ (N)	B1ft	2.2a
		(1)	

(Total 5 marks)

Notes: N.B. only penalise answers given as column vectors once in this question

(a)

B1: cao. Ignore if they find the magnitude.

(b)

M1: Use of $\mathbf{R} = 0.25\mathbf{a}$ or in scalar form. Need to have used the mass correctly

M1: Use of Pythagoras on their \mathbf{a} or their \mathbf{R}

A1: Correct only and must come from a **correct R**.

A0 if they get 20 and then say $|\mathbf{a}| = \sqrt{20}$

(c)

B1ft: – (their answer to (a)) **OR** cao if they don't use answer to (a).