16 A particle moves under the action of two forces, $\mathbf{F}_1$ and $\mathbf{F}_2$

It is given that

$$\mathbf{F}_1 = (1.6\mathbf{i} - 5\mathbf{j})\,\text{N}$$

$$\mathbf{F}_2 = (k\mathbf{i} + 5k\mathbf{j})\,\text{N}$$

where k is a constant.

The acceleration of the particle is $(3.2\mathbf{i} + 12\mathbf{j})\,\text{m s}^{-2}$

Find k

[4 marks]