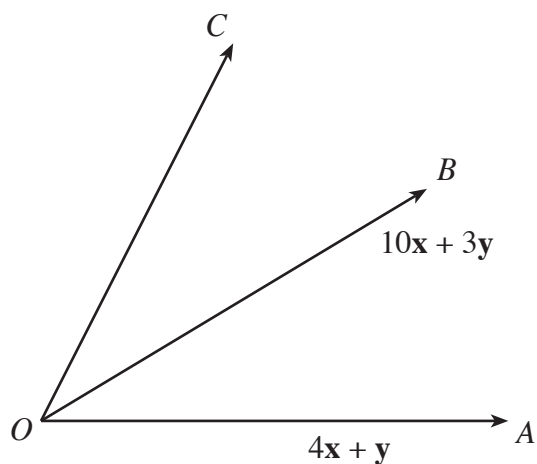


22. Vectors \mathbf{OA} , \mathbf{OB} and \mathbf{OC} are shown in the diagram below.



You are given that $\mathbf{OA} = 4\mathbf{x} + \mathbf{y}$ and $\mathbf{OB} = 10\mathbf{x} + 3\mathbf{y}$.

(a) Express \mathbf{AB} in terms of \mathbf{x} and \mathbf{y} in its simplest form.

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[2]

(b) Given that $\mathbf{AC} = 1.5 \mathbf{AB}$, find \mathbf{OC} in terms of \mathbf{x} and \mathbf{y} .

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[2]