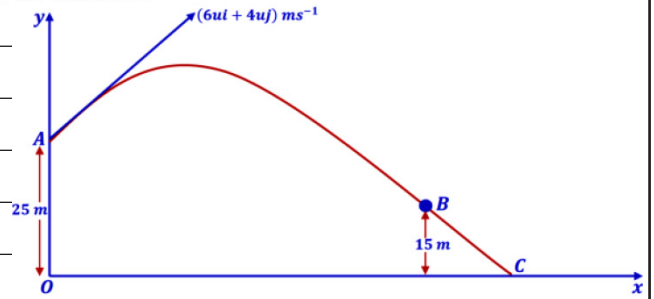


3 A particle P is projected from a point A with position $25\mathbf{j}$ m with respect to a fixed origin O .

The velocity of projection is $(6\mathbf{ui} + 4\mathbf{uj}) \text{ ms}^{-1}$. The particle moves freely under gravity, passing through a point B , which has position vector $(\lambda\mathbf{i} + 15\mathbf{j})$ m, where λ is a constant, before reaching the point C on the x – axis, as shown in the diagram. The particle takes 5 s to move from A to B .

Find: (a) the value of u (b) the value of λ

(c) the angle the velocity of P makes with the x – axis as it reaches C .



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