

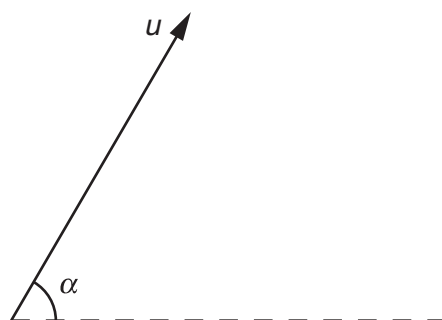
- 6 A steel rule can be read to the nearest millimetre. It is used to measure the length of a bar whose true length is 895 mm. Repeated measurements give the following readings.

length / mm	892, 891, 892, 891, 891, 892
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Are the readings accurate and precise to within 1 mm?

	results are accurate to within 1 mm	results are precise to within 1 mm
<b>A</b>	no	no
<b>B</b>	no	yes
<b>C</b>	yes	no
<b>D</b>	yes	yes

- 7 A projectile is fired at an angle  $\alpha$  to the horizontal at a speed  $u$ , as shown.



What will be the vertical and horizontal components of its velocity after a time  $t$ ?  
Assume that air resistance is negligible. The acceleration of free fall is  $g$ .

	vertical component	horizontal component
<b>A</b>	$u \sin \alpha$	$u \cos \alpha$
<b>B</b>	$u \sin \alpha - gt$	$u \cos \alpha - gt$
<b>C</b>	$u \sin \alpha - gt$	$u \cos \alpha$
<b>D</b>	$u \cos \alpha$	$u \sin \alpha - gt$