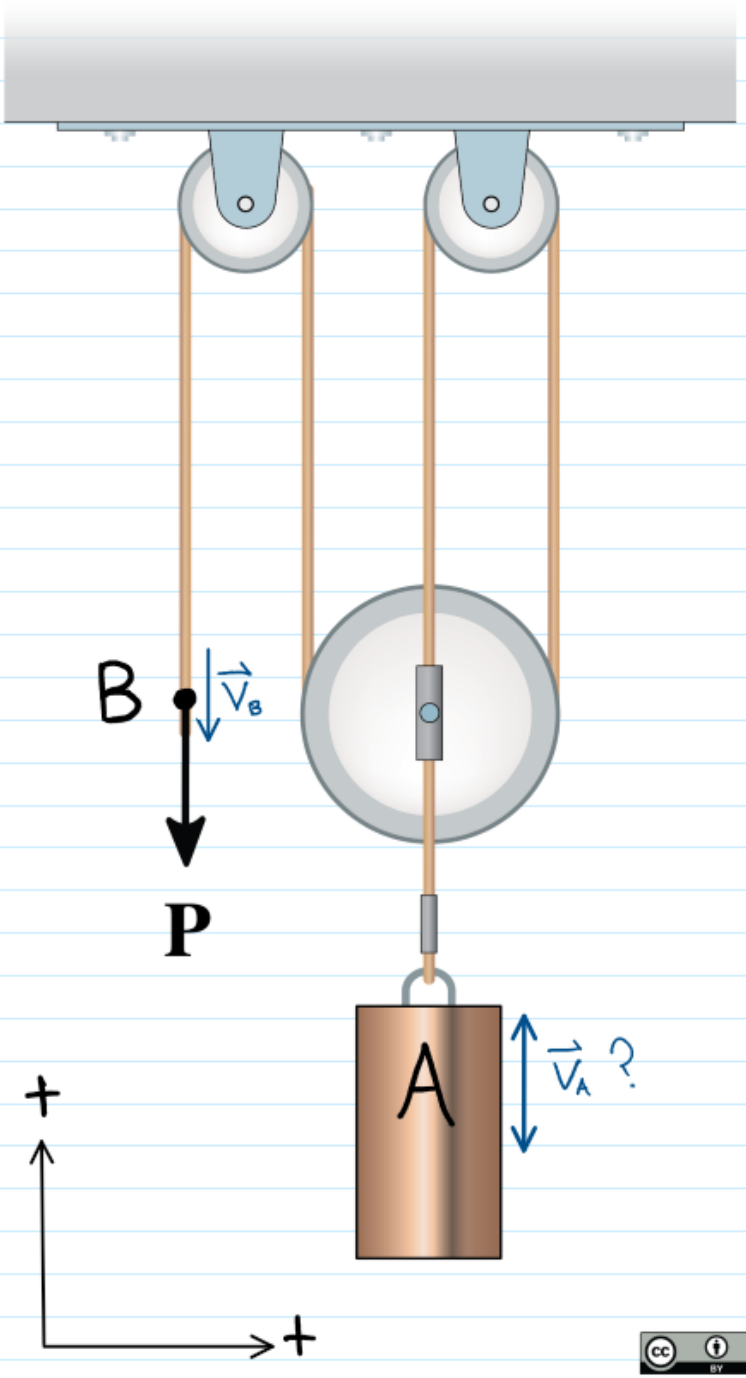
21-P-KM-GD-012

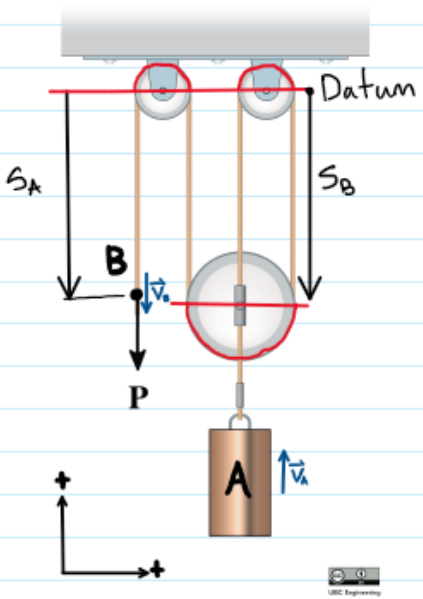


A brass cylinder with a large "A" on it needs to be lifted off the floor to avoid the "A" being damaged.

As a new intern, you are given the honour of pulling on the rope.

You exert a force P on the rope, which moves point B at $\vec{V}_B$ in the downward direction.

What is the direction and magnitude of $\vec{V}_A$?



given $\vec{V}_B$ Find $\vec{V}_A$

$s_B + 3s_A = l$ ← constant

↓ time derivative

$V_B + 3V_A = 0$

$V_A = -\frac{1}{3} V_B$