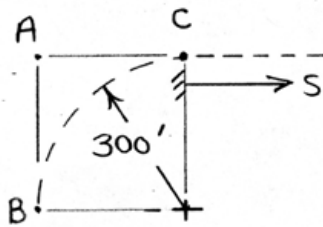


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First, determine B's acceleration time:

$$v = v_0 + at$$

$$65 \left( \frac{44}{30} \right) = 25 \left( \frac{44}{30} \right) + 3.22t$$

$$t = 18.22 \text{ sec}$$

Distance traveled by A in that time:

$$d_A = 65 \left( \frac{44}{30} \right) (18.22) = 1737 \text{ ft}$$

Displacement beyond C:  $S_A = 1737 - 300 = 1437 \text{ ft}$

Distance traveled by B in 18.22 sec:

$$d_B = v_0 t + \frac{1}{2} at^2 = 25 \left( \frac{44}{30} \right) (18.22) + \frac{1}{2} (3.22) (18.22)^2 = 1202 \text{ ft}$$

Displacement beyond C:  $S_B = 1202 - \frac{\pi(300)}{2} = 731 \text{ ft}$

So A is ahead of B by  $S_A - S_B = 1437 - 731$

$$= \underline{706 \text{ ft}} \quad \left( \begin{array}{c} \text{in the} \\ \text{steady-state} \end{array} \right)$$