

Doppler ACT

A: You are driving along the highway at 65 mph, and behind you a police car, also traveling at 65 mph, has its siren turned on.

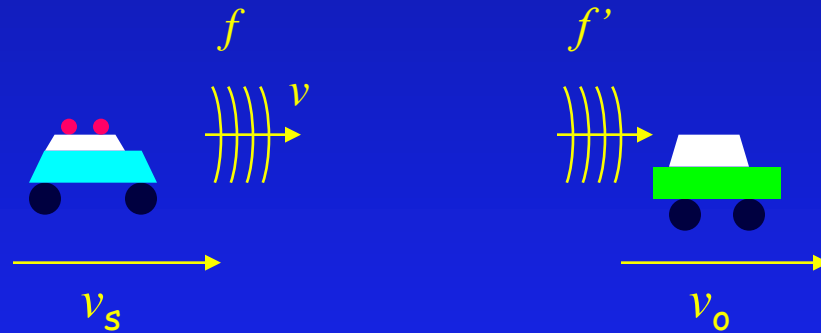
B: You and the police car have both pulled over to the side of the road, but the siren is still turned on.

In which case does the frequency of the siren seem higher to you?

A. Case A

B. Case B

C. same ← correct



$$\frac{f'}{f} = \frac{1 - \frac{v_o}{v}}{1 - \frac{v_s}{v}} = \frac{1 - \frac{65 \text{ mph}}{v}}{1 - \frac{65 \text{ mph}}{v}} = 1$$