96. Since they are approaching each other, the sound produced (of emitted frequency f) by the flatcar-trumpet received by an observer on the ground will be of higher pitch f'. In these terms, we are told $f' - f = 4.0$ Hz, and consequently that $f'/f = 444/440 = 1.0091$. With v_S designating the speed of the flatcar and $v = 343$ m/s being the speed of sound, the Doppler equation leads to

$$\frac{f'}{f} = \frac{v + 0}{v - v_S} \quad \Longrightarrow \quad v_S = (343)\frac{1.0091 - 1}{1.0091} = 3.1 \text{ m/s} \ .$$