The Mach numbers for the military jet and for the commercial airplane are the same, hence:

$$Ma_{\text{mil}} = Ma_{\text{com}}$$

or:

$$\frac{V_{\text{mil}}}{c_{\text{49k ft}}} = \frac{V_{\text{com}}}{c_{\text{27k ft}}}$$

where $c_{\text{49k ft}}$ and $c_{\text{27k ft}}$ denote the speed of sound at altitudes of 49,000 feet and 27,000 feet respectively.

We can solve this equation for the variable of interest, the velocity of the commercial airplane:

$$V_{\text{com}} = V_{\text{mil}} \left[\frac{c_{\text{27k ft}}}{c_{\text{49k ft}}} \right]$$

Since the speed of sound $c = \sqrt{k \cdot R \cdot T}$, the above expression can be replaced with:

$$V_{\text{com}} = V_{\text{mil}} \sqrt{\frac{T_{\text{27k ft}}}{T_{\text{49k ft}}}} \qquad (1)$$

Since 27,000 ft = 8.2 km, the provided graph can be used to obtain $T_{\text{27k ft}} \approx -38^{\circ}\text{C} = 235\text{K}$. Similarly, $T_{\text{49k ft}} \approx -57^{\circ}\text{C} = 216\text{K}$. Insert these values now in equation (1):

$$V_{\text{com}} = 495 \frac{\text{miles}}{\text{hour}} \cdot \sqrt{\frac{235\text{K}}{216\text{K}}} = 516 \frac{\text{miles}}{\text{hour}}$$

However, the problem statement asks for the speed in feet per second, therefore:

$$V_{\text{com}} = 516 \frac{\text{miles}}{\text{hour}} \cdot \left| \frac{1\,\text{hour}}{3600\,\text{s}} \right| \cdot \left| \frac{5280\,\text{feet}}{1\,\text{mile}} \right| = 757.3\,\text{feet/s}$$

The correct answer is (C)