

**6.22**  $a_e > a_a = a_b > a_d > a_c$ . The balls all have the same cross-sectional area  $A$ . All of the balls have gravity pulling down, resulting in an acceleration  $g$ . The drag force  $D = \frac{1}{4} Av^2$  results in an addition or subtraction to  $g$  of  $\frac{1}{m}D$ . For ball e, the drag force adds to gravity, resulting in a higher acceleration.  $D = 0$  for balls a and b. The drag force opposes gravity for balls c and d, and since  $m_d > m_c$ ,  $a_d > a_c$ .