

12.2 number 33: Find a vector of length 7 that has the same direction as  $\vec{v} = 12\vec{i} - 5\vec{k}$ .

**Answer:** The vector  $\vec{v}$  has length  $\sqrt{(12)^2 + (25)^2} = \sqrt{169} = 13$  the vector of length 7 and the same direction as  $\vec{v}$  is  $\frac{7}{13}(12\vec{i} - 5\vec{k})$ .