

## PERPENDICULAR AND PARALLEL VECTORS

Determine if the following vectors are perpendicular, parallel, or neither.

1.  $\vec{u} = 2\hat{i} + 3\hat{j}$  and  $\vec{v} = 3\hat{i} - 2\hat{j}$

2.  $\vec{u} = 2\hat{i} + 3\hat{j}$  and  $\vec{v} = 4\hat{i} + 6\hat{j}$

3.  $\vec{u} = 2\hat{i} + 3\hat{j} + \hat{k}$  and  $\vec{v} = 3\hat{i} - 2\hat{j} + \hat{k}$

4.  $\vec{u} = 2\hat{i} + 3\hat{j} + \hat{k}$  and  $\vec{v} = 2\hat{i} + 2\hat{j} - 10\hat{k}$

5.  $\vec{u} = \hat{i} + \hat{j} - 5\hat{k}$  and  $\vec{v} = 2\hat{i} + 2\hat{j} - 10\hat{k}$