

PhyzJob: Numeric Vector Addition



Consider the following force vectors.

$$\mathbf{A} = (4\text{N}, 7\text{N})$$

$$\mathbf{B} = (-10\text{N}, -1\text{N})$$

$$\mathbf{C} = (-5\text{N}, 5\text{N})$$

$$\mathbf{D} = (7\text{N}, -4\text{N})$$

$$\mathbf{E} = (12\text{N}, 7\text{N})$$

$$\mathbf{F} = (8\text{N}, 0\text{N})$$

$$\mathbf{G} = (0\text{N}, 4\text{N})$$

Determine the resultant vector for each addition specified below.

1. $\mathbf{H} = \mathbf{A} + \mathbf{B}$

$$\mathbf{H} = (4\text{N} + -10\text{N}, 7\text{N} + -1\text{N})$$

$$\mathbf{H} = \underline{(-6\text{N}, 6\text{N})}$$

2. $\mathbf{J} = \mathbf{C} + \mathbf{D}$

3. $\mathbf{K} = \mathbf{D} + \mathbf{B}$

4. $\mathbf{M} = \mathbf{E} - \mathbf{F}$

5. $\mathbf{N} = \mathbf{G} - \mathbf{D}$

6. $\mathbf{P} = \mathbf{C} - \mathbf{B}$

7. $\mathbf{Q} = \mathbf{A} + \mathbf{D} - \mathbf{E} + \mathbf{G}$

8. $\mathbf{R} = \mathbf{F} + \mathbf{C} - \mathbf{B} - \mathbf{D}$