

## Linear Combination of Vectors

A) Find the linear combination of given vectors.

1) If  $\vec{p} = \langle -3, 6 \rangle$  and  $\vec{q} = \langle -1, 2 \rangle$ ,  
find  $4\vec{p} + 4\vec{q}$ .

2) If  $\vec{y} = \langle -4, -5 \rangle$  and  $\vec{z} = \langle 0, -3 \rangle$ ,  
find  $2\vec{y} - 5\vec{z}$ .

3) If  $\vec{c} = \langle 2, -8 \rangle$  and  $\vec{d} = \langle 5, 5 \rangle$ ,  
find  $-\vec{d} - 5\vec{c}$ .

5) If  $\vec{q} = \langle -7, -8 \rangle$  and  $\vec{x} = \langle -6, 1 \rangle$ ,  
find  $3\vec{r} + 2\vec{q}$ .

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B) 1) Which of the following is  $2\vec{p} - 3\vec{q}$ , if  $\vec{p} = \langle 4, 4 \rangle$  and  $\vec{q} = \langle 4, 4 \rangle$ ?

- a)  $\langle 0, -20 \rangle$       b)  $\langle -16, -20 \rangle$       c)  $\langle 16, 0 \rangle$       d)  $\langle -16, 0 \rangle$

2) Which of the following is  $-\vec{b} + 4\vec{c}$ , if  $\vec{b} = \langle 2, 10 \rangle$  and  $\vec{c} = \langle 8, 3 \rangle$ ?

- a)  $\langle 30, 2 \rangle$       b)  $\langle 30, 12 \rangle$       c)  $\langle 34, -2 \rangle$       d)  $\langle -30, -12 \rangle$