

**Answer on Question #56013 – Math – Vector Calculus**

Find the projection of the vector

$$A=i-2j+k$$

on the vector

$$B=4i-4j+7K$$

$$1/5$$

$$4/7$$

$$19/9$$

$$11/5$$

**Solution**

The projection of the vector  $\vec{A}$  on the vector  $\vec{B}$  is

$$\frac{\vec{A} \cdot \vec{B}}{|\vec{B}|} = \frac{1 \cdot 4 + (-2) \cdot (-4) + 1 \cdot 7}{\sqrt{4^2 + (-4)^2 + 7^2}} = \frac{19}{\sqrt{81}} = \frac{19}{9}.$$

**Answer: 19/9.**