Vector Magnitude, Scalar Multiples and Addition and Subtraction

Name:	Class:	Date:

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1) Find the magnitude of the vector shown below, giving your answer to 3 significant figures where necessary.

[1]
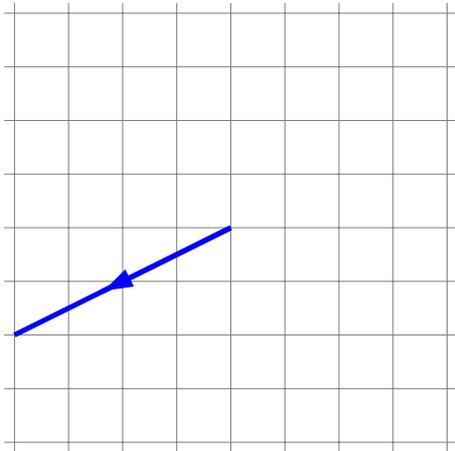
2) Find the magnitude of the vector $\begin{pmatrix} 4 \\ 3 \end{pmatrix}$, giving your answer to 3 significant figures where necessary.   [1]

3) Given $\mathbf{x} = \begin{pmatrix} -4 \\ -5 \end{pmatrix}$, calculate $2\mathbf{x}$ [1]

4) Given $\mathbf{e} = \begin{pmatrix} 3 \\ -3 \end{pmatrix}$, calculate $-4\mathbf{e}$ [1]

5) Given $\mathbf{g} = \begin{pmatrix} 2 \\ -2 \end{pmatrix}$, calculate $\frac{1}{4}\mathbf{g}$ [1]

6) Given $\mathbf{m} = \begin{pmatrix} 5 \\ -3 \end{pmatrix}$ and $\mathbf{n} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$, calculate $\mathbf{m} + \mathbf{n}$ [1]

7) Given $\mathbf{g} = \begin{pmatrix} -2 \\ 0 \end{pmatrix}$ and $\mathbf{h} = \begin{pmatrix} 0 \\ 4 \end{pmatrix}$, calculate $\mathbf{g} - \mathbf{h}$ [1]

8) Given $\mathbf{e} = \begin{pmatrix} -2 \\ -5 \end{pmatrix}$ and $\mathbf{f} = \begin{pmatrix} -4 \\ 0 \end{pmatrix}$, calculate $4\mathbf{e} + 3\mathbf{f}$ [1]

Solutions for the assessment Vector Magnitude, Scalar Multiples and Addition and Subtraction

1) Magnitude = 4.47 units

2) Magnitude of **k** = 5 units

3) $\begin{pmatrix} -8 \\ -10 \end{pmatrix}$

4) $\begin{pmatrix} -12 \\ 12 \end{pmatrix}$

5) $\begin{pmatrix} 0.5 \\ -0.5 \end{pmatrix}$

6) $\begin{pmatrix} 4 \\ -3 \end{pmatrix}$

7) $\begin{pmatrix} -2 \\ -4 \end{pmatrix}$

8) $\begin{pmatrix} -20 \\ -20 \end{pmatrix}$