More Vector Practice! Name_____

2020

For each of the following vectors, find …

… component form, sum of unit vectors form, sketch in standard position, magnitude, and direction.

1. Point S is at (–3, –2) and T is at (5, –7). Find $\overrightarrow{ST}$.

a. component form	c. sketch in standard position	d. magnitude (nearest hundredth)	e. direction (nearest hundredth)
b. sum of unit vectors			

2. Point F is at (–5, 2) and G is at (–8, 15). Find $\overrightarrow{FG}$.

a. component form	c. sketch in standard position	d. magnitude (nearest hundredth)	e. direction (nearest hundredth)
b. sum of unit vectors			

3. Point J is at (6, –7) and K is at (–9, –11). Find $\overrightarrow{JK}$.

a. component form	c. sketch in standard position	d. magnitude (nearest hundredth)	e. direction (nearest hundredth)
b. sum of unit vectors			

4. Point L is at (0, 6) and M is at (2, 2). Find $\overrightarrow{LM}$.

a. component form	c. sketch in standard position	d. magnitude (nearest hundredth)	e. direction (nearest hundredth)
b. sum of unit vectors			

5. Point Q is at (1.9, –4.7) and R is at (6.8, –12.3). Find $\overrightarrow{QR}$.

a. component form	c. sketch in standard position	d. magnitude (nearest hundredth)	e. direction (nearest hundredth)
b. sum of unit vectors			

Find: a) $-\frac{1}{2}\vec{u} - 5\vec{v}$ **and b)** $-3\vec{u} + 6\vec{v}$ **for each of the following.**
Write your answer in the form of the given vectors.

6. $\vec{u} =< 4, -4 > and\ \vec{v} =< 6, 9 >$

7. $\vec{u} = 2\vec{\imath} - 3\vec{\jmath}$ and $\vec{v} = -\vec{\imath} + 5\vec{\jmath}$

For the following find the unit vector in the direction of the given vector.
Use simplified radicals, not decimals.

8. $\vec{v} =< -3, 9 >$

9. $\vec{v} =< 8, 2 >$

10. $\vec{w} =< -5, 5 >$

11. $\vec{w} = 3\vec{\imath} + 3\vec{\jmath}$

12. $\vec{v} = -\frac{1}{2}\vec{\imath} + \frac{3}{2}\vec{\jmath}$

13. $\vec{w} = -7\vec{\jmath}$

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1) $\langle 8, -5 \rangle$; 9.43; 327.99°

2) $\langle -3, 13 \rangle$; 13.34; 102.99°

3) $\langle -15, -4 \rangle$; 15.52; 194.93°

4) $\langle 2, -4 \rangle$; 4.47; 296.57°

5) $\langle 4.9, -7.6 \rangle$; 9.04; 302.81°

6) $\langle -32, -43 \rangle$; $\langle 24, 66 \rangle$

7) $4\vec{i} - \frac{47}{2}\vec{j}$; $-12\vec{i} + 39\vec{j}$

8) $\left\langle \frac{-\sqrt{10}}{10}, \frac{3\sqrt{10}}{10} \right\rangle$

9) $\left\langle \frac{4\sqrt{17}}{17}, \frac{\sqrt{17}}{17} \right\rangle$

10) $\left\langle \frac{-\sqrt{2}}{2}, \frac{\sqrt{2}}{2} \right\rangle$

11) $\frac{\sqrt{2}}{2}\vec{i} + \frac{\sqrt{2}}{2}\vec{j}$

12) $-\frac{\sqrt{10}}{10}\vec{i} + \frac{3\sqrt{10}}{10}\vec{j}$

13) $-\vec{j}$