# **East Los Angeles College Department of Mathematics**

### **Math 241**

### **Test 4-Take Home**

1. Let  $\bar{v}=2\bar{\iota}+5\bar{\jmath}$  and  $\bar{w}=-\bar{\iota}+3\bar{\jmath}$ . Graph  $\bar{v}$ ,  $\bar{w}$ , and use the parallelogram law to graph the resultant vector  $\bar{v}+\bar{w}$  and the difference vector  $\bar{v}-\bar{w}$  on the same coordinate system.

### Determine:

- 2.  $\overline{v}+\overline{w}$
- 3.  $\overline{v}$ - $\overline{w}$
- $4.3\bar{v}$
- $5.2\overline{w}$
- $6.2\overline{v} + 3\overline{w}$
- 7.  $|\bar{v}|$
- 8. |<del>w</del>|
- 9.  $|\bar{v} + \bar{w}|$
- 10.  $|\bar{v} \bar{w}|$
- 11.  $\lceil \overline{v} \rceil \lvert \overline{w} \rvert$
- 12.  $|2\bar{v} + 3\bar{w}|$
- 13. The direction of  $\bar{v}$
- 14. The direction of  $\overline{w}$
- 15. The direction of  $\bar{v}$ + $\bar{w}$
- 16. The direction of  $2\bar{v} + 3\bar{w}$

Find the horizontal and vertical components of the vector and write in  $\bar{\iota}$  and  $\bar{\jmath}$  form.

- 17.  $|\bar{v}| = \sqrt{3}$  and  $\theta = 28^{\circ}$
- 18.  $|\bar{v}|$ =14.6 and  $\theta = 255^{\circ}$

Determine the magnitude and direction(degrees) of the vectors.

- 19.  $\bar{v} = \langle 4, -1 \rangle$
- 20.  $\bar{v} = \langle \frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}} \rangle$

## **Answer Sheet**

		4.	
1	Use Graph Paper	11	
2		12	
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