Precalculus Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review for Vectors Quiz – Forms and Operations

Find the vector v that satisfies the following conditions. Write your answer in **component form.**

1. Initial point (1,-7); terminal point (9, 3)

2. ****

Find the vector v that satisfies the following conditions. Write your answer in **linear combination form.**

3. Initial point (11, 5); terminal point (-6, 1)

4. 

**Use the vectors** **u** = <1,-8>, **v** = <-4,-5>, **w** = <-2, 9> **to perform the given operations.**

5. 3**w** - **u**

6. 4**v** – 5**w**

7. 7 +

**Use the vector** **u** = 7i – 4j and **v** = 8i + 2j **to perform the given operations**

8. 

9. -5**u**

10. 9**u** +  **v**

**Find the magnitude and direction angle of each vector**

11. **v** = 8i + 6j

12. **v** = <1, -13>

**Solve each of the following by resolving vectors.**

13. A passenger plane can travel at a speed of 470 miles per hour in still air. If one traveling 15° east of north encounters a wind blowing at 52 miles per hour 15° south of west, find the resulting speed and direction of the plane.

14. Two people are pushing a box. One person pushes it with 40 N at an angle of 31o while the other pushes it with

a force of 58 N at an angle of 168o. In what direction does the box move and with how much force?

15. A duck flies 10 m/s at  south of west with a wind blowing 5 m/s north. Find the resultant direction and velocity of the duck.

16. A Frisbee is thrown three times: 20 m at 120o, 30 meters at 90o and then 40 m at 255o. Determine the frisbee’s resultant displacement and angle.