

Physical Science II – Mr. Menin
Adding Vectors Graphically

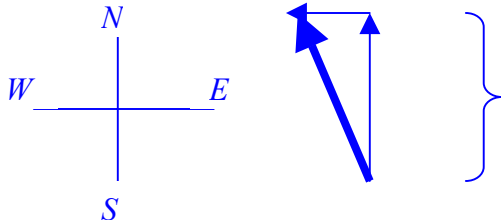
NAME _____ SECTION _____ DATE _____

Part A. ON THE FLOOR (LAB)

(Use a meter stick, protractor, string, masking tape and/or chalk.)

Find each vector sum by actual measurement on the floor. *(Sample Answer Provided for #1 Below.)*

1. 3 feet [N] + 2 feet [W] = **3.56' @ 57° N of W**



*Draw a small, not necessarily to scale, freehand sketch of vector sum, with the **RESULTANT** or **Net (Sum) Vector** bolded.*

2. 1.5 feet [S] + 2 feet [W] =

3. 2 feet [30° N of E] + 2 feet [N] =

4. 2 feet [45° N of W] + 3 feet [N] =

5. 1.5 feet [N] + 2 feet [60° E of N] =

6. Figure out an easy way to do this one (*& do it*):

$$1 \text{ feet [N]} + 0.5 \text{ feet [E]} + 1.5 \text{ feet [N]} + 1 \text{ feet [E]} + 0.5 \text{ feet [N]} + 1 \text{ feet [E]} =$$

7. Same for this one:

$$8 \text{ feet [N]} + 15 \text{ feet [E]} + 2 \text{ feet [N]} + 17 \text{ feet [W]} + 9 \text{ feet [S]} + 4 \text{ feet [E]} =$$

Part B. ON PAPER.

Use a ruler, protractor, & pen/pencil. (*Attach your worksheets to the finished lab report.*)

8. $4 \text{ cm [N]} + 3 \text{ cm [E]} =$

9. $5 \text{ cm [W]} + 4 \text{ cm [S]} =$

10. $3 \text{ cm [20}^\circ \text{ E of N]} + 4 \text{ cm [E]} =$

11. (*H-question*) $3 \text{ cm [W]} + 5 \text{ cm [40}^\circ \text{ W of N]} =$

12. (*H-question*) $6 \text{ cm } [35^\circ \text{ N of E}] + 5 \text{ cm } [60^\circ \text{ W of N}] =$

13. $3 \text{ cm } [\text{N}] + 5 \text{ cm } [\text{S}] + 2 \text{ cm } [\text{E}] + 7 \text{ cm } [\text{W}] + 10 \text{ cm } [\text{N}] + 10 \text{ cm } [\text{E}] =$

14. (*H-question*) $8 \text{ cm } [\text{S}] + 5 \text{ cm } [30^\circ \text{ E of N}] + 3 \text{ cm } [\text{E}] =$

Extra Credit: Provide a trigonometric solution to each of the above problems.