

# PHYSICS

Name: \_\_\_\_\_

## Worksheet - Vectors

hour

date

Choose which of the following are vectors by writing VECTOR/SCALAR in the blank.

- |       |                |       |             |
|-------|----------------|-------|-------------|
| _____ | 1. force       | _____ | 4. velocity |
| _____ | 2. temperature | _____ | 5. time     |
| _____ | 3. distance    | _____ | 6. 20 lb up |

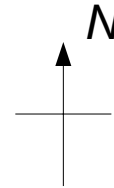
Draw a graphical representation of the following vectors.

7. 200 mph east

scale: 1cm = \_\_\_\_\_

8. 100 N south

9. 150 lb 45° south of west



Combine the vectors below using scale drawings. Indicate your scale.

10. 100 N east, 50 N east.

11. 50 N east, 75 N west.

12. 400 mph 45° south of east, 100 mph 35° south of west.

Combine the vectors below using scale drawings or right triangle trig. Show ALL work.

13. 50 N south, 40 N west.

14. 100 lb 52° north of east, 40 lb east.

\*15. 45 N west, 18 lb north.

16. -62 N south, 84 N west.

\*17. 30 lb south, 27 lb west, 50 lb east.

Combine the vectors below using the component method of vector addition.

18. 48 N 30° S of W, 27 N 40° S of E.

Use any method to solve the problems below.

19. A very strong girl runs 200 miles east for several hours. After a brief rest she runs another 100 miles north. She stops for the night at a local bed and breakfast and the next morning walks 75 miles directly south-east. Find the magnitude and direction of her displacement.

\*\*20. A traffic light is supported by two cables that are 140° apart. Each cable exerts a tensile force of 150 N on the light. How much does the light weigh?