

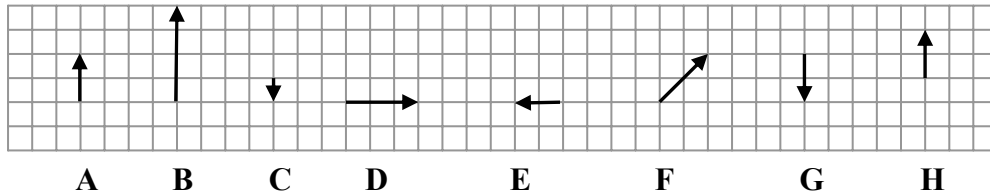
## Section V.1: Vectors and Scalars

### Exercises

Which of the following quantities are vectors or scalars? Write “V” for vector, “S” for scalar, and “neither” if the quantity isn’t a vector or a scalar.

- |                                     |                       |
|-------------------------------------|-----------------------|
| 1. 5.6 kg                           | S                     |
| 2. 3.2 m/s northwest                | V                     |
| 3. left                             | neither               |
| 4. $8.8 \times 10^{-3} \text{ m}^3$ | S                     |
| 5. $9.81 \text{ m/s}^2$ down        | V                     |
| 6. 5                                | S                     |
| 7. $43^\circ$ north of east         | neither(no magnitude) |
| 8. 9.2 cm                           | S                     |

Consider the vectors in the diagram below.



9. List all of the other vectors (if any) that have the same magnitude as vector A.

**E,G,H**

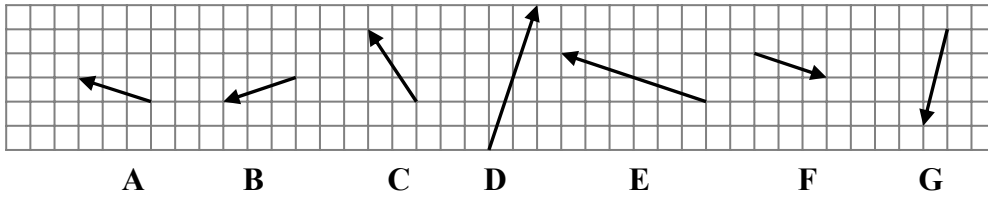
10. List all of the other vectors (if any) that have the same **direction** as vector A.

**B, H**

11. List all of the other vectors (if any) that have the same magnitude and **direction** as A.

**H**

Consider the vectors in the diagram below.



12. List all of the other vectors (if any) that have the same magnitude as vector A.

**B,F**

13. List all of the other vectors (if any) that have the same **direction** as vector A.

**E**

14. List all of the other vectors (if any) that have the same magnitude and direction as A.

**none**