1. A woman drives for one hour at speed 60 mph. She then reduces her speed to 40 mph and drives for one more hour. Her average speed for the entire trip is (a) < 50 mph, (b) = 50 mph, (c) > 50 mph.

2. A woman drives for 60 miles at speed 60 mph. She then reduces her speed to 40 mph and drives another 60 miles. Her average speed for the entire trip is (a) < 50 mph, (b) = 50 mph, (c) > 50 mph.

3. In the figure above which of the labelled vectors is equal to the red vector?

4. Which is the inverse of the red vector?

5. Which of the vectors is unequal in magnitude to any of the other vectors?

6. A and B are two non-zero vectors. Which of the following is not a defined operation involving A and B? (a) A + B, (b) A − B, (c) A × B, (d) A ÷ B (e) A · B.

7. A particle starts at point A, then moves along an unspecified path to point B. If D is the magnitude of the particle's displacement and d is the total distance it travels in going from A to B, then regardless of the path taken, which of the following relationships will always be true? (a) D = d, (b) D < d, (c) D > d, (d) D ≤ d, (e) D ≥ d.

8. For the particle described in the preceding question, which of the relationships would never be true? (c)