

Midterm Review Answers

CHAPTER 1

1. B
2. J
3. A
4. H
5. C
6. G
7. C
8. J
9. B
10. F
11. C
12. F
13. a. 2, b. 3, c. 3, d. 4
14. 26,897 m

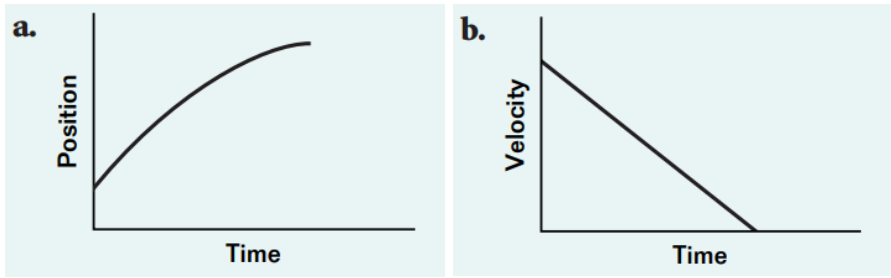
$$\text{distance} \div \frac{\text{distance}}{\text{time}} = \frac{\text{distance} \times \text{time}}{\text{distance}} = \text{time}$$

- 15.
16. Sample Answer: Because the type of fertilizer is the variable being tested, all other factors should be controlled, including the type of vegetable, the amount of water, and the amount of sunshine. A fifth row with no fertilizer could be used as the control group. Results could be measured by size, quantity, appearance, and taste.
17. Paragraphs should describe a process similar to the following: First, you could count the number of blades of grass in a small area, such as a 10 cm by 10 cm square. You would round this to the nearest order of magnitude, then multiply by the number of such squares along the length of the field, and then multiply again by the approximate number of such squares along the width of the field.

CHAPTER 2

1. B
2. F
3. D
4. H
5. B
6. G
7. C
8. G
9. D
10. Displacement measures only the net change in position from starting point to end point. The distance traveled is the total length of the path followed from starting point to end point and may be greater than or equal to the displacement.
11. Answers will vary depending on graph estimations but should be approximately as follows:
 - a. $\Delta x_1 = +2400$ m;
 $v_1 = +4.0$ m/s
 - b. $\Delta x_2 = +1500$ m;
 $v_2 = +2.5$ m/s
 - c. $\Delta x_3 = +900$ m; $v_3 = +2$ m/s
 - d. $\Delta x_{tot} = +4800$ m; $v_{avg} = +2.7$ m/s

12.



13. a. +6.5 m/s, b. 5.0 s

14. a. 1.6 m/s^2 eastward b. 24 m/s eastward c. 240 m

15. a. 2.55 s b. 5.18 s

CHAPTER 3

1. B

2. H

3. A

4. J

5. C

6. G

7. B

8. J

9. D

10. H

11. B

12. H

13. They are perpendicular

14. 31.5 m horizontally, 26.4 m vertically

15. 29.4 m/s