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Lab Physics-End of Chapter 6 Questions (pages 66-83)

**Review Questions (page 83)**

1. A scalar is a quantity that has magnitude (size). A vector has magnitude and direction.

2. 10 N

3a. 25 N upward

3b. 175 N downward

4. The direction is important for velocity, it is not for speed

5. 250 km/hr 150 km/hr

8. 5

9. 141 N

17. Horizontal remains constant because there is no source of acceleration. Vertical component is accelerated downward due to gravity.

18. The are exactly the same. (Galileo’s Law of Falling Bodies)

19. Both hit the ground at the same time.

20a. 5m (1/2 g t2)

20b. No-Galileo’s Law of Falling Bodies says all object’s fall the same distance in a certain time interval, no matter their mass or initial velocities.

22. 90 degrees; 45 degrees

23. 20 m/s

**Think and Explain page 84**

1a. 9 (5+4)

1b. 1 (5-4)

8. 20 m/s From a height of 4.9 m, it takes 1 second to hit the ground. If it travels 20 meters in 1 second, its speed is 20 m/s