

Instructions: Read pages 47-51 in your Big Blue textbook and answer the following questions.

Acceleration, Speed, and Velocity

1. (Review) What is speed? _____
2. Acceleration is _____
3. When the velocity of an object changes, _____
4. Remember that velocity includes the _____
5. Therefore, a change in velocity can be either a change _____
_____ or a change in _____
6. (Think) Acceleration occurs all around you as objects _____,
_____, or _____.
7. If the speed of a car is increasing, the car has _____ acceleration.
When the car slows down its speed is decreasing and the car has _____.
8. (Think) Negative acceleration is also known as _____.
9. (Think) When do velocity and acceleration have different directions? _____

10. Any time a moving object changes direction, _____
11. (Think) Anytime an object travels in a circular motion, it is constantly _____
12. (Think) On a speed-time graph, what does a horizontal line mean? _____
13. (Think) On a speed-time graph, what does a line that slopes upward mean? _____

14. (Think) On a speed-time graph, what does a line that slopes downward mean? _____

Calculating Acceleration

15. To calculate the acceleration of an object, _____

16. To calculate the change in velocity, _____

17. Write the acceleration equation:

18. (Think) When is the change in velocity the same as the change in speed? _____

19. The units of acceleration are _____

20. (Think) When an airliner is taking off, is its acceleration positive or negative? _____

21. (Think) When an airliner is landing, is its acceleration positive or negative? _____

22. Draw speed-time graphs showing positive and negative accelerations. Label the axes.

Positive	Negative

Amusement Park Acceleration

23. (Think) What are roller coaster rides designed to give riders?

24. (Think) A car accelerates from 10 m/s to 22 m/s in 6 seconds. What is its acceleration?

25. (Think) A car decelerates from 32 m/s to 20 m/s in 6 seconds. What is its acceleration?

26. (Think) Using complete sentences, explain why streets and highways have speed limits rather than velocity limits: _____
