Name _____ Date _____ Class _____

**SECTION 1-3** **REVIEW AND REINFORCE**

# Acceleration



## ◆ Understanding Main Ideas

*If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.*

_____ **1.** If a train is slowing down, it <u>is</u> accelerating.

_____ **2.** To find the acceleration rate, you must calculate the change in <u>distance</u> during each unit of time.

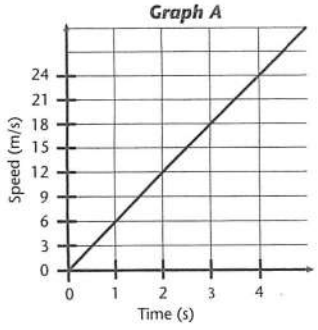
_____ **3.** A Ferris wheel turning at a constant speed of 5 m/s <u>is not</u> accelerating.

_____ **4.** An airplane is flying west at 200 km/h. Two hours later, it is flying west at 300 km/h. Its average acceleration is <u>100</u> km/h$^2$.

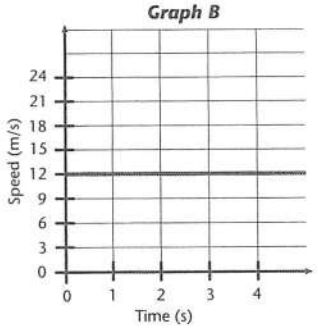
_____ **5.** Graph A plots a race car's speed for 5 seconds. The car's rate of acceleration is <u>6</u> m/s$^2$.

_____ **6.** Graph B plots the same car's speed for a different 5-second interval. The car's acceleration during this interval is <u>12</u> m/s$^2$.

**Graph A**




**Graph B**




## ◆ Building Vocabulary

*From the list below, choose the term that best completes each sentence. Write your answers on the line provided.*

acceleration velocity speed distance

**7.** _____ occurs when the velocity of an object changes.

**8.** When you say that a race car travels northward at 100 km/h, you are talking about its _____.

Name _____ Class _____ Date _____

Problem-Solving Worksheet 2

# Motion

Solve the following problems. Show all your work. Remember to include the correct units.

1. A jogger runs the first 1000 meters of a race in 250 seconds. What is the jogger's speed?

2. The Space Shuttle travels in orbit at 21,000 km/hr. How far will it travel after 5.0 hours?

Problems 3 and 4 refer to the table, which summarizes Jack's ride on his new skateboard.

| Time (sec) | Distance (m) |
|---|---|
| 0 | 0 |
| 5 | 30 |
| 10 | 70 |
| 15 | 90 |
| 20 | 120 |

3. What was Jack's speed from T = 5 sec to T = 10 sec?

4. What was Jack's average speed for the entire ride?

5. A car accelerates from 0 to 72 km/hour in 8.0 seconds. What is the car's acceleration?

6. A science student drops a rock down a mine shaft. If it takes 3.0 seconds for the rock to hit the bottom of the shaft, what is the speed of the rock just before impact?

7. A space ship is traveling at 20,000 m/sec. At T = 5 seconds, the rocket thrusters are turned on. At T = 55 seconds, the space ship reaches a speed of 24,000 m/sec. What is the space ship's acceleration?