Name: Period:

All Motion Equations of Motion 3

1. A car moving at a speed of 8.0 meters per second enters a highway and accelerates at 3.0 meters per second2. How fast will the car be moving after it has accelerated for 56 meters?

2. A child riding a bicycle at 15 meters per second decelerates at the rate of 3.0 meters per second2 for 4.0 seconds. What is the child’s speed at the end of the 4.0 seconds?

3. A race car traveling at 10 meters per second accelerates at 1.5 meters per seconds2 while traveling a distance of 600 meters. The final speed of the race car is approximately

4. A car accelerates uniformly from rest at 3.2 m/s2. When the car has traveled a distance of 40 meters, its speed will be

5. A boat initially traveling at 10 meters per second accelerates uniformly at the rate of 5.0 meters per second2 for 10 seconds. How far does the boat travel during this time?

6. A truck with an initial speed of 12 meters per second accelerates uniformly at 2.0 meters per second2 for 3.0 seconds. What is the total distance traveled by the truck during this 3.0-second interval?7. An object originally at rest is uniformly accelerated along a straight-line path to a speed of 8.0 meters per second in 2.0 seconds. What was the acceleration of the object?

8. An object originally moving at a speed of 20 meters per second accelerates uniformly for 5.0 seconds to a final speed of 50 meters per second. What is the acceleration of the object?

9. An object has a constant acceleration of 2.0 meters per second2. The time required for the object to accelerate from 8.0 meters per second to 28 meters per second is

10. A jogger accelerates at a constant rate as she travels 5.0 meters along a straight track from point A to point B, as shown in the diagram below.



If her speed was 2.0 meters per second at point A and will be 3.0 meters per second at point B, how long will it take her to go from A to B?