

1st quarter review pair A

1. A compact car has a mass of 550kg. Its engine can provide 1700N of force. What acceleration will the car experience on a level road?
2. How long will it take for the car to reach 32m/s (71 mph)
3. If 6 people having a combined mass of 400kg, get in the car, now what acceleration will the car experience on a level road?
4. Now how long will it take for the car to reach 32m/s?
5. Two skaters start at rest and push off from each other. The skater with a mass of 75kg is going 2m/s. The other skater has a mass of 50kg. How fast in meters per second is this other skater going?
6. A 240g golf club is going 65 m/s. After it strikes a 55g ball, it continues at 45 m/s. How fast in meters per second is the ball going?
7. If my arm is able to accelerate a 0.8kg baseball at 18(m/s)/s. How fast will my arm be able to accelerate a 5kg shot put?
8. A biker is going into a slickrock dish that is 1.6m deep. About how fast will he be going at the bottom?
9. Stockton runs 20 meters. As he crosses the 10m mark, the stopwatch reads 3.4s (seconds). As he crosses the 20m mark, the stopwatch reads 5.0s. What is stockton's average velocity between the 10m marker and the 20m marker?

Answers to part B

1. 2.4 (m/s)/s
2. 13s
3. 1.5(m/s)/s
4. 22s
5. 3.7 m/s
6. 73 m/s
7. 4.8 (m/s)/s
8. 6.6 m/s
9. 9.1 m/s

1st quarter review pair B

1. A compact car has a mass of 620kg. Its engine can provide 1500N of force. What acceleration will the car experience on a level road?
2. How long will it take for the car to reach 32m/s (71 mph)
3. If 6 people having a combined mass of 400kg, get in the car, now what acceleration will the car experience on a level road?
4. Now how long will it take for the car to reach 32m/s?
5. Two skaters start at rest and push off from each other. The skater with a mass of 65kg is going 2m/s. The other skater has a mass of 35kg. How fast in meters per second is this other skater going?
6. A 200g golf club is going 65 m/s. After it strikes a 55g ball, it continues at 45 m/s. How fast in meters per second is the ball going?
7. If my arm is able to accelerate a 1.2kg softball at 20(m/s)/s. How fast will my arm be able to accelerate a 5kg shot put?
8. A biker is going into a slickrock dish that is 2.2m deep. About how fast will he be going at the bottom?
9. Stockton runs 20 meters. As he crosses the 10m mark, the stopwatch reads 2.9s (seconds). As he crosses the 20m mark, the stopwatch reads 4s. What is stockton's average velocity between the 10m marker and the 20m marker?

Answers to part A

1. 3.1 (m/s)/s
2. 10s
3. 1.8 (m/s)/s
4. 18s
5. 3 m/s
6. 87 m/s
7. 2.9 (2.9 m/s)/s
8. 5.7 m/s
9. 6.3 m/s