

### Planet Holloway **wsheet 2.3**

#### Physics Chapter 2

You may print this out and write on it or work on your own paper.

#### **Show all work.**

1. What is the speed of a woman who walks 80 km in 10 hours?
2. What is the velocity of a man who takes 8 minutes to walk half a mile?
3. What is the acceleration of a ball that goes from rest (0 m/s) to 20 m/s in 4 seconds?
4. How long will it take a ball to get to 60 m/s if it is initially at rest and accelerates at 12 m/s/s?
5. What is the final speed of a car that accelerates 8 m/s/s from rest for 4 seconds?
6. What is the average speed of a man who walks 4 miles in 1 hour and then another 8 miles in 3 more hours?
7. If you drive for 1 hour at 20 mph and then another hour at 50 mph, what is your average speed?
8. If you increase your speed from 10 m/s to 30 m/s in 5 seconds, what is your acceleration?
9. Imagine you drop a ball from a high cliff and watch it for 3 seconds. How fast would it be going at the end of that 3 seconds? (Remember the acceleration due to gravity is 10 m/s/s).
10. If you drop a ball for 3 seconds, what would be its average speed over the 3 seconds?
11. If you were to drop another ball, a completely different ball from the previous example, not even the same color or anything, maybe purchased from a different store and having some really awesome swirly design on it, you know what I mean, and were to let it fall for 3 seconds. How far would it fall?
12. If you and your long lost identical clone, the one your parents had made in case you turned out to be “a disappointment,” that you never knew you had were 60 meters apart and ran toward each other at 3 m/s, how long would it take you to meet?

¡Bonus Question!

13. What if your long lost twin clone had somehow been severely injured in a bizarre gardening accident and could only run 1 m/s and you being the better of the two could run 3 m/s, how long would it take you to run to your twin if you were 60 meters apart and instead of running toward you, your twin ran away from you because they just remembered that they owed you money?

Answers:

1. 2.22 m/s

2. 1.68 m/s

3. 5 m/s/s

4. 5 s

5. 32 m/s

6. 1.34 m/s

7. 15.64 m/s

8. 4 m/s/s

9. 30 m/s

10. 15 m/s

11. 45 m

12. 10 s