

Acceleration Due to Gravity Problems

- b. How long would it take to reach its maximum height?
- c. How long would it take to have a speed of 20 m/s, but be coming down?
- d. After 4.7 seconds, what is its velocity?
7. An apple falls from a tall tree and hits the ground after 1.3 seconds. How fast is it going just as it hits the ground?
8. Billy throws a paint brush straight up in the air. It reaches its maximum height after 1.9 seconds. How fast did Billy throw the brush?
9. Sally throws a volleyball straight up with an initial speed of 17 m/s. How high does it go?
10. An acorn falls out of a tree from a height of 25 meters. How fast is it going when it hits the ground?

Answers: 1) 3.5 m/s 2) 1.7 s 3. a) 2.5 s b) 5 m/s (up) c) -15 m/s (down)
d) 5 s 4. a) 0.9 s b) 9 m/s 5. a) 57 m/s b) 0.5 s 6. a) 13 m/s
b) 3.5 s c) 5.5 s d) -12 m/s 7) 13 m/s 8) 19 m/s 9) 14.5 m
10) 22.4 m/s