

Free Fall Problems

1. You are standing on the edge of a cliff by the sea and drop a rock. It falls for 4 seconds, and splashes into the water.
 - a. What is the speed of the rock just as it hits the water?

 - b. How high was the cliff?

2. A worker on the edge of a building drops a hammer. It falls for 2.3 seconds before hitting the ground.
 - a. How fast is the hammer going just as it hits the ground?

 - b. How tall was the building?

3. A seagull drops a clam onto some rocks in order to crack the shell. The clam falls for 1.25 seconds.
 - a. How fast is the clam going just as it hits the ground?

 - b. How high up was the seagull?

4. A ball is dropped and falls for 2 meters before hitting the ground.
 - a. How many seconds did it take to fall?

 - b. How fast is the ball going just as it hits the ground?

5. A painter drops a paintbrush while painting the side of a building. The brush falls 12.8 meters.
 - a. How many seconds does it take to fall?

 - b. How fast is the brush going just as it hits the ground?

6. Someone throws a rock straight down with an initial speed of 7 m/s. It falls for 1.5 seconds.
 - a. How fast is it going when it hits the ground?

 - b. How far did the rock travel?

Answers: 1. a) 40 m/s b) 80 m 2. a) 23 m/s b) 26.5 m 3. a) 12.5 m/s b) 7.8 m
4. a) 0.63 s b) 6.3 m/s 5. a) 1.6 s b) 16 m/s 6. a) 22 m/s b) 21.8 m