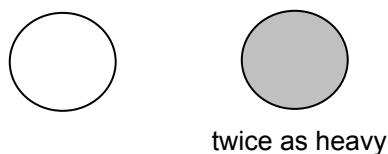
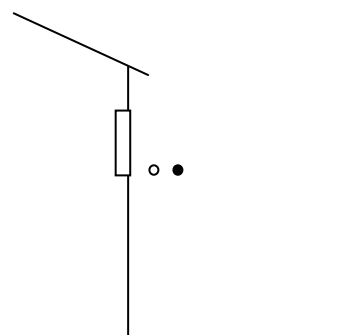


4

Two metal balls are the same size, but one weighs twice as much as the other.



The two balls are dropped at the same instant from the roof of a single storey building. You can ignore any forces caused by the air as these are too small to have any effect.



(a) Which of the following best describes what happens?

Tick ONE box (✓)

- The heavy ball will reach the ground in exactly half the time of the light one.
- The light ball will reach the ground in exactly half the time of the heavy one.
- The two balls will reach the ground at exactly the same time.
- The heavy ball will reach the ground well before the light one, but not necessarily in half the time.
- The light ball will reach the ground well before the heavy one, but not necessarily in half the time.

(b) Which of the following best explains the way the balls fall?

Tick ONE box (✓)

- The force of gravity on the heavy ball is twice as big, so it has twice as big an effect.
- The force of gravity is the same for both balls. So it has less effect on the heavy one.
- The force of gravity on the heavy ball is twice as big, but it has twice as much mass. So both balls have the same acceleration.