# Inclined Planes Practice Questions

1. A 23.4 kg object sits on a frictionless inclined plane with an angle of 30.0° from the horizontal. What are the magnitudes of the (a) weight, (b) normal force, and (c) parallel force? Draw a diagram with all three forces and relevant angles shown and

labelled.

1. 229 N
2. 199 N
3. 115 N
4. How fast will the object in Question 1 accelerate down the incline?

4.91 m s-2

1. A 466 N object is on a 33.3° frictionless incline that is 8.45 m long. How long will it take the object to get to the bottom of the incline if it starts from rest?

1.77 s

1. A 93.4 kg person who started at rest took 1.57 s to get from the top to the bottom of a slide. If the slide is frictionless and angled at 55.4°, how long is it?

9.94 m

1. How fast will a 2.00 kg ball be rolling when it gets to the bottom of a 12.8 m long ramp angled at 40.0°, assuming it started at rest?

12.7 m s-1

1. How fast will a car be moving if it starts at rest and rolls down a 47.4 m long hill angled at 10.0°?

12.7 m s-1