**Dynamics Notes**

3 – Inclines

However, when the ball is placed on an *inclined plane* it will roll down the plane.

A ball sitting on a level surface will not roll because the forces on it are balanced (Fnet = 0).

For inclined plane questions our first step should always be to resolve the object’s Fg into two components:

**FN is always…**

Although the Fg pulls **straight down** at all times…

Two important things to notice:

1) Only the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pulls down the ramp.

2) The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is equal and opposite to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Ex

An 8.0 kg block slides down the frictionless inclined plane shown. What is its acceleration?

Ex

A 15 kg block sits on an inclined ramp whose coefficient of friction is 0.21. Find the block’s acceleration.

Ex

How much force is required to push an 11 kg block up the frictionless ramp shown at a constant velocity?

35o

58o

40o