PHY1025 Test 1 Review Topics

Know all the International Standard (SI) units for the quantities we have studied:
length, time, mass, area, volume, density, velocity, acceleration, force.

Know how to convert units, given the necessary conversion factors.
(like MPH to m/s).

Know the basic prefixes (kilo, Mega, Giga, Tera, centi, milli, micro, nano)
and how to handle them on your calculator.

Be familiar with the definitions of speed, velocity, acceleration, mass and force and
know how these quantities are related.

Newton's Three Laws of Motion – Inertia, $\Sigma F=ma$,action/reaction – What does each
Law really mean?

Scalars and Vectors - What is the difference? What are some examples of each?
How do vectors add when they are at 90 degrees to each other?
Be ready to use the Pythagorean triplets (3,4,5, 6,8,10, etc).

Be prepared to solve some basic problems involving velocity, acceleration, distance, time
and force similar to the ones we did in class.

Friction : Coulomb friction and Viscous friction. What are the differences between the two?
What factors affect how much of each kind of friction is present in any given situation?

Free fall, acceleration due to gravity, air resistance, terminal velocity

You will be given the following formulae and any unit conversions you need:
$\Delta v = at$
$d = \frac{1}{2} at^2$
$\Sigma F = ma$
$W = mg$
$g = 10\ m/s^2$