3.10: Kinetic energy

We remind ourselves that we are discussing *particles*, and that all kinetic energy is translational kinetic energy.

Notation:

- *[Math Processing Error]* = kinetic energy with respect to the centre of mass C.
- *[Math Processing Error]* = kinetic energy with respect to the origin O.

Theorem:

[Math Processing Error]

Thus:

[Math Processing Error]

[Math Processing Error].

[Math Processing Error].

Corollary:

If *[Math Processing Error]*. (Think about what this means.)

Corollary:

Corollary: For a non-rotating rigid body, *[Math Processing Error]* = 0, and therefore *[Math Processing Error]*

(Think about what this means.)