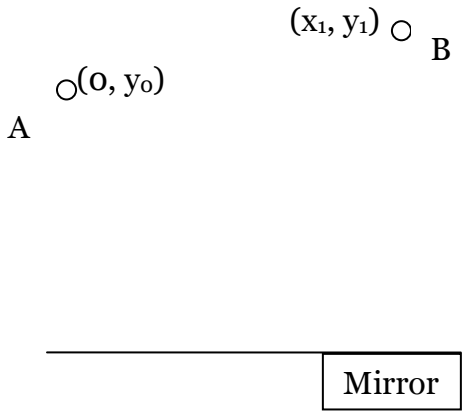
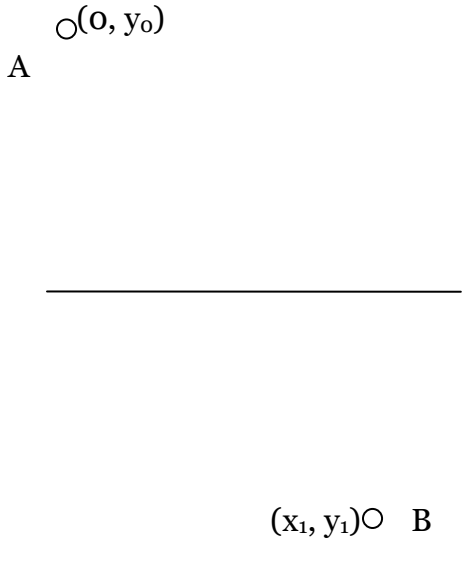
WS6 - Fermat's Principle or the principle of least time

Fermat's principle states that the path taken between two points by a ray of light is the pat that can be traversed in the least time.



1. Using Fermat's principle, if a light ray starts at point A and travels to point B by means of a reflection from the mirror, determine the location at which the ray must hit the mirror and from this information, determine the law of reflection



2. Imagine a second situation in which a light ray leaves the source (A) in a medium in which it travels with a speed v_1 and enters a second medium in which it travels with a speed v_2 and travels to point B. Using Fermat's Principle, determine the path followed by the light ray and then Snell's law