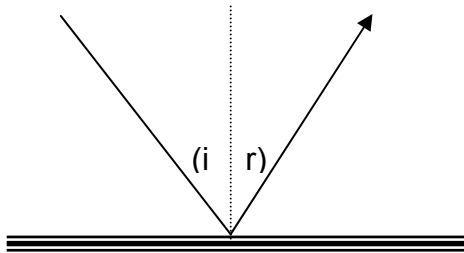
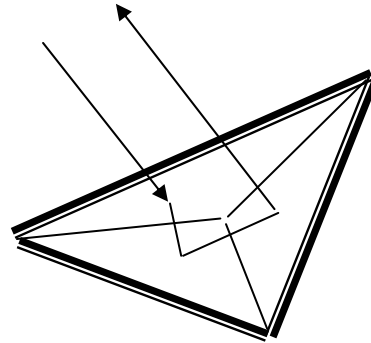


## 5. Retro reflectors

Most mirrors reflect light the same way as a flat bathroom mirror where the angle of incidence( $i$ ) = the angle of reflectance( $r$ ). A retro reflector is different in that the reflected light returns in the same direction as the incident light. The beam is reflected 180 degrees. A retro reflector is like a section through a corner and has three faces that form the inside corner of a cube. Some highway reflectors are everyday examples.



Flat mirror



Retro reflector

Retro reflectors are used to ensure that the signal is returned as accurately as possible to where it was transmitted from. They are coated with a very thin layer of gold to ensure high reflectance and no tarnishing. The thin layer of gold requires extra care in cleaning, and may be easily scratched. Retro reflectors are easy to align.



6 - Retro enclosure



21 - Retro enclosure

Where long paths need to be measured, retro reflectors can be used in multiples or arrays.

For very short distances, reflective tape can be used. This tape reflects in a similar manner to a retro reflector and is built up with very small, angled facets.