

Instructions for drawing a ray diagram (plane mirror)

- 1) Measure the shortest distance from the end of the object to the mirror (this will always be a line perpendicular to the mirror).
- 2) Continuing the perpendicular line through the mirror mark a point the same distance measured in 1), but 'inside' the mirror. Mark this point – this represents the image of the point from part 1).
- 3) Repeat steps 1+2 for any other points of the object.
- 4) Join the image dots using a dotted line (this represents that it is a virtual image and not real)
- 5) Using a ruler line up an end point of the image with the eye. This line represents where we think the ray of light has come from.
- 6) 'Inside' the mirror draw this ray of light as a dotted line – to represent a virtual ray.
- 7) Outside the mirror, draw the ray of light as a solid line – it actually exists.
- 8) Where the ray of light intersects the mirror draw a solid line to the object – if the ray came from the virtual head of the arrow, then draw this new ray to the head of the actual object.
- 9) Repeat this for each part of the object.
- 10) Now add on arrows onto the ray – remember to draw them from the object to the mirror, then from the mirror to the eye. The virtual rays can also have arrows.

If your diagram is accurate each reflected ray will obey the Law of reflection without you needing to use a protractor.