Images in Plane Mirrors

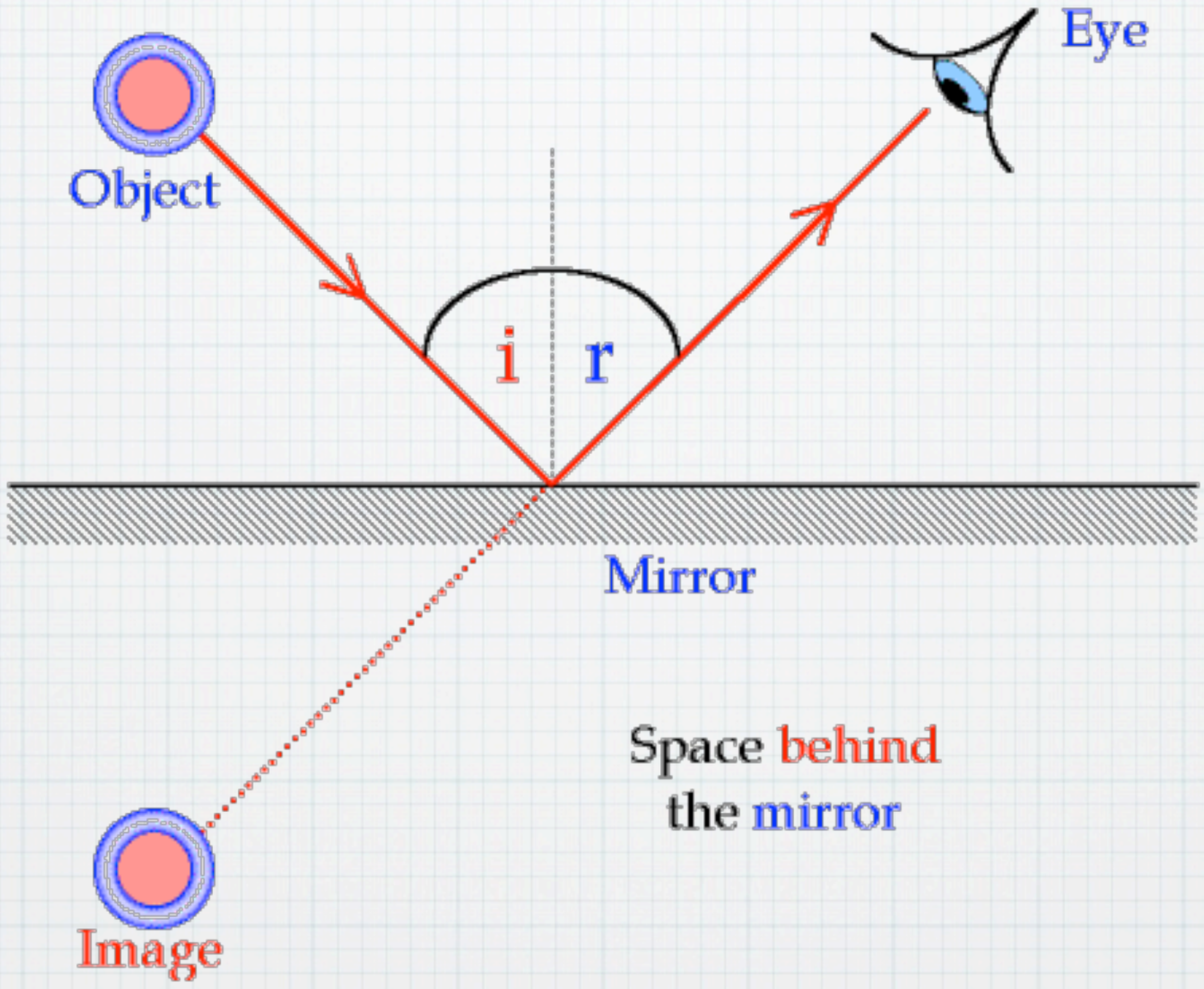
Images in Plane Mirrors

* When your eyes detect reflected light in a plane mirror, you actually interpret the object to be behind the mirror.

* This is known as a **virtual image**

Images in Plane Mirrors

* We call this a virtual image because light does not actually reach behind the mirror, rather it is coming from as apparent light source.


Eye
Object
i
r
Mirror
Space behind
the mirror
Image

Images in Plane Mirrors

* You can use light rays and the laws of reflection to show how a plane mirror produces a virtual image and where it is located.

Images in Plane Mirrors

* Draw the light rays behind the mirror as dashes because the light rays do not really exist.

Images in Plane Mirrors

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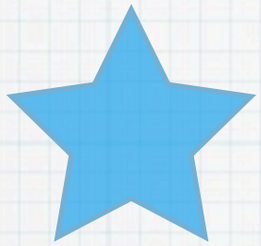

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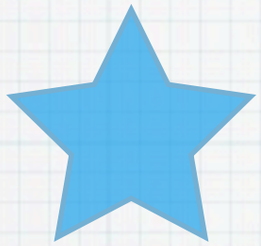

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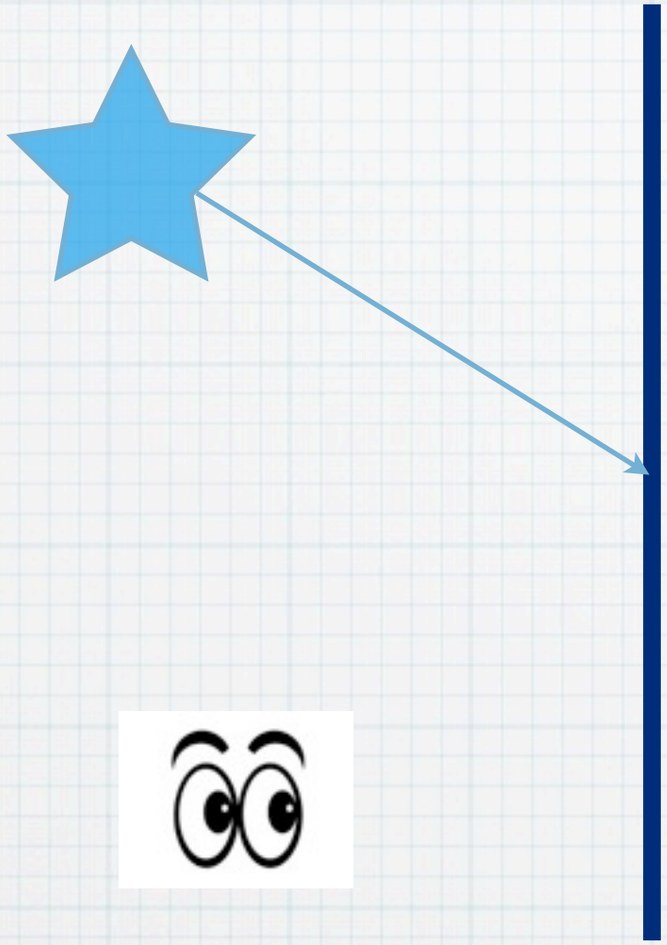

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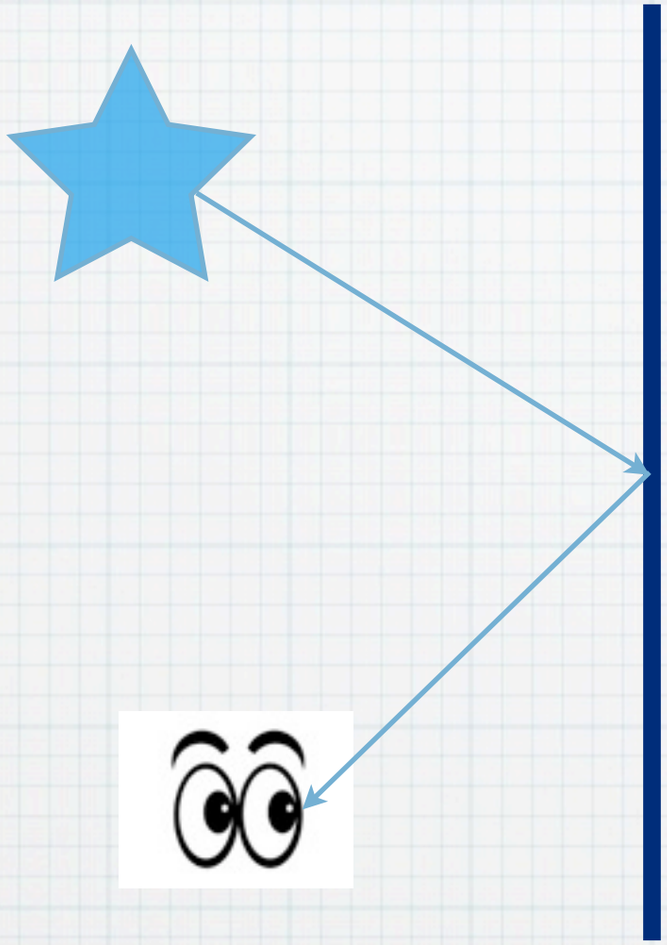

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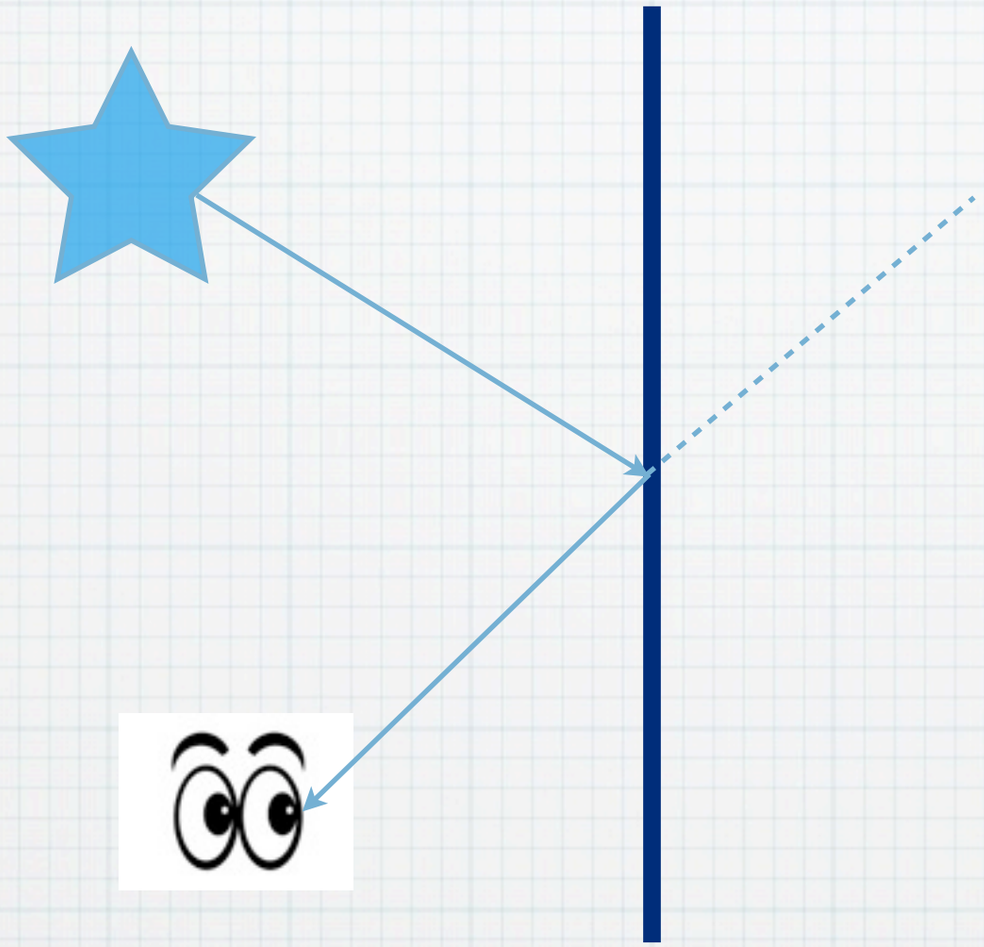

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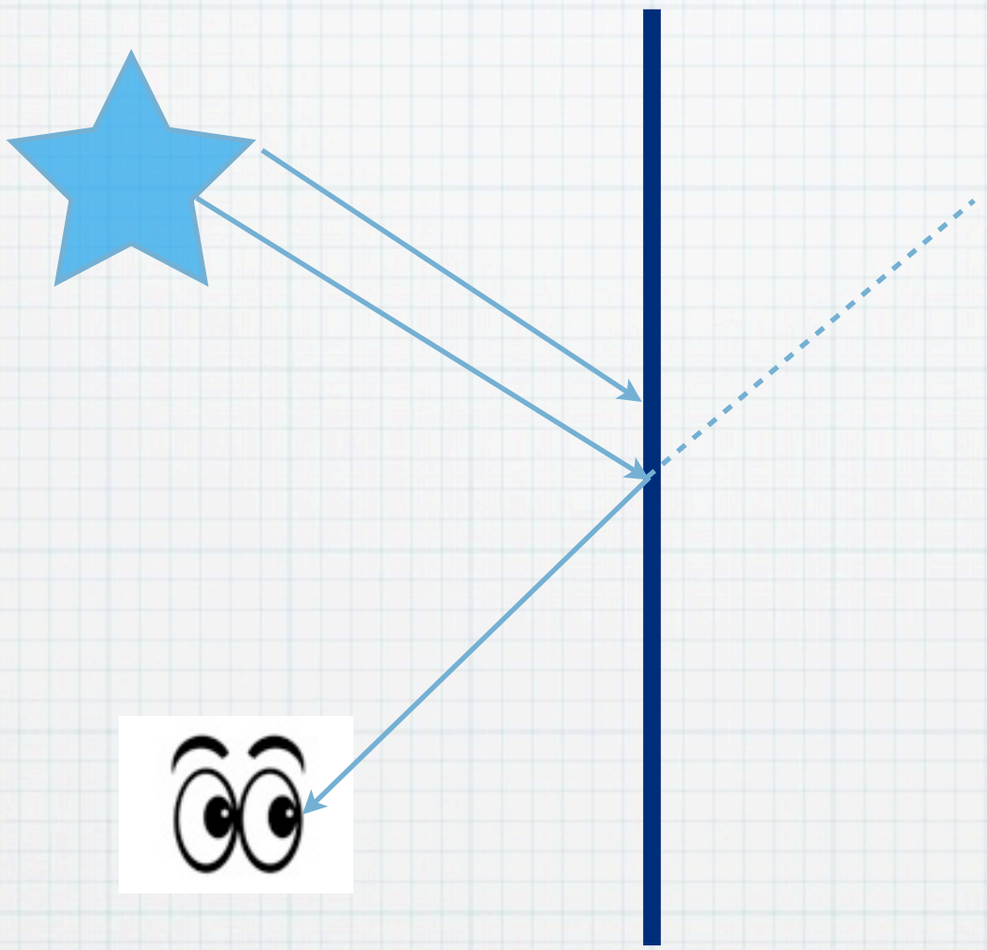

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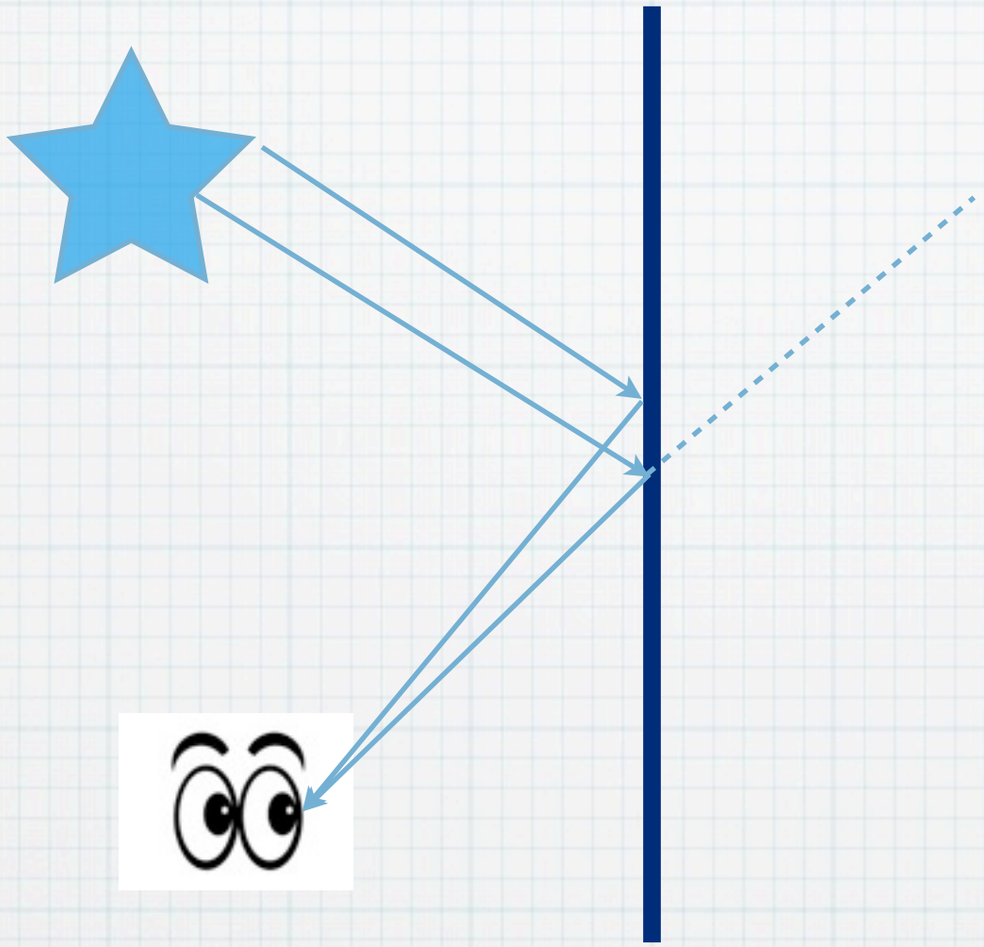

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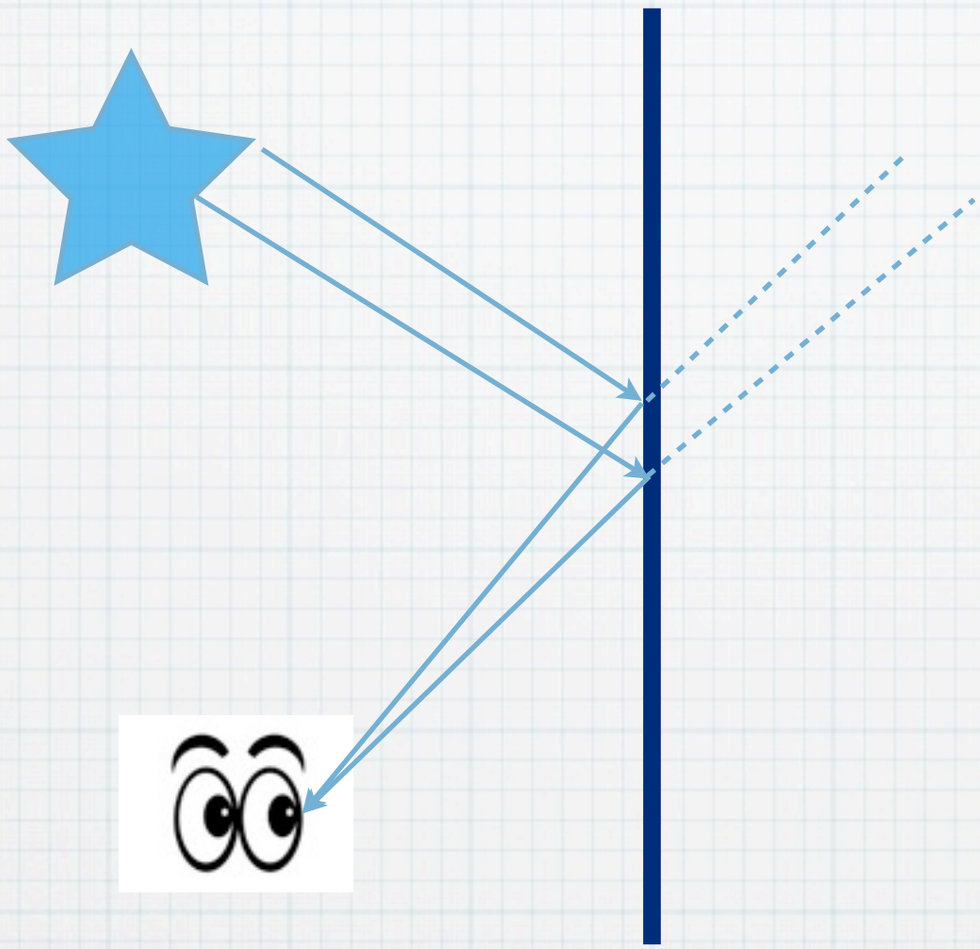

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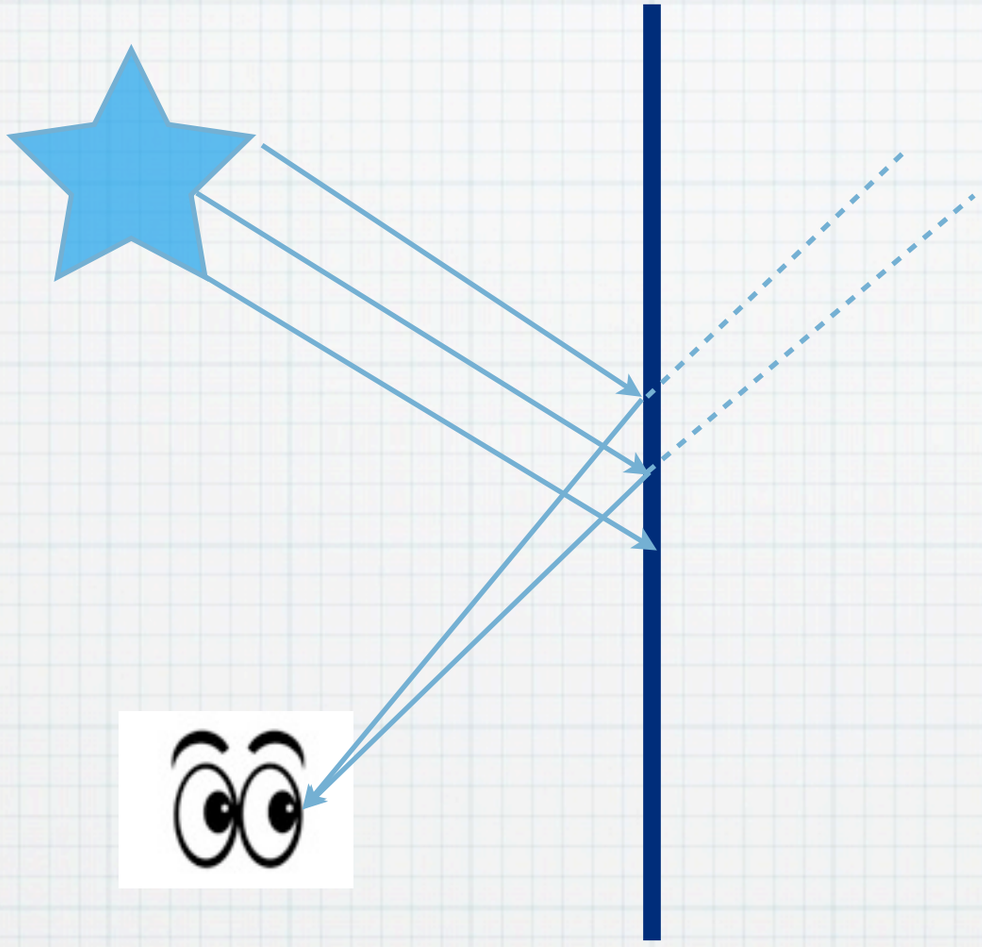

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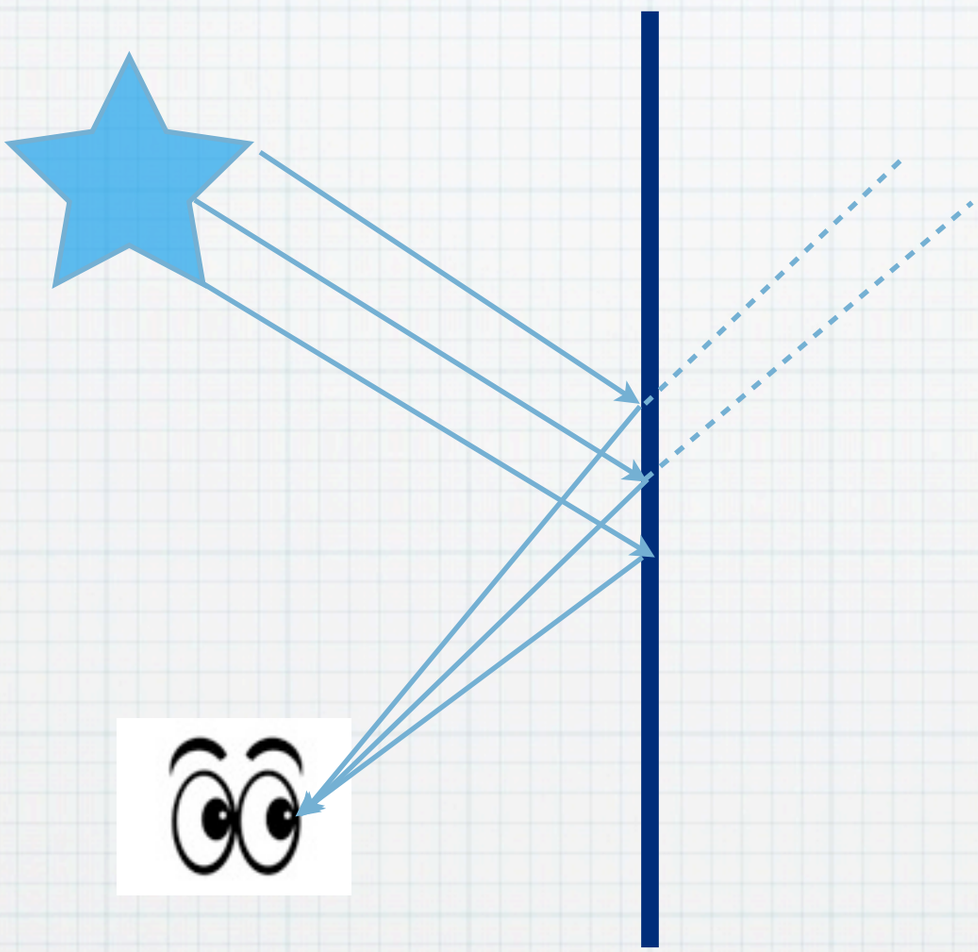

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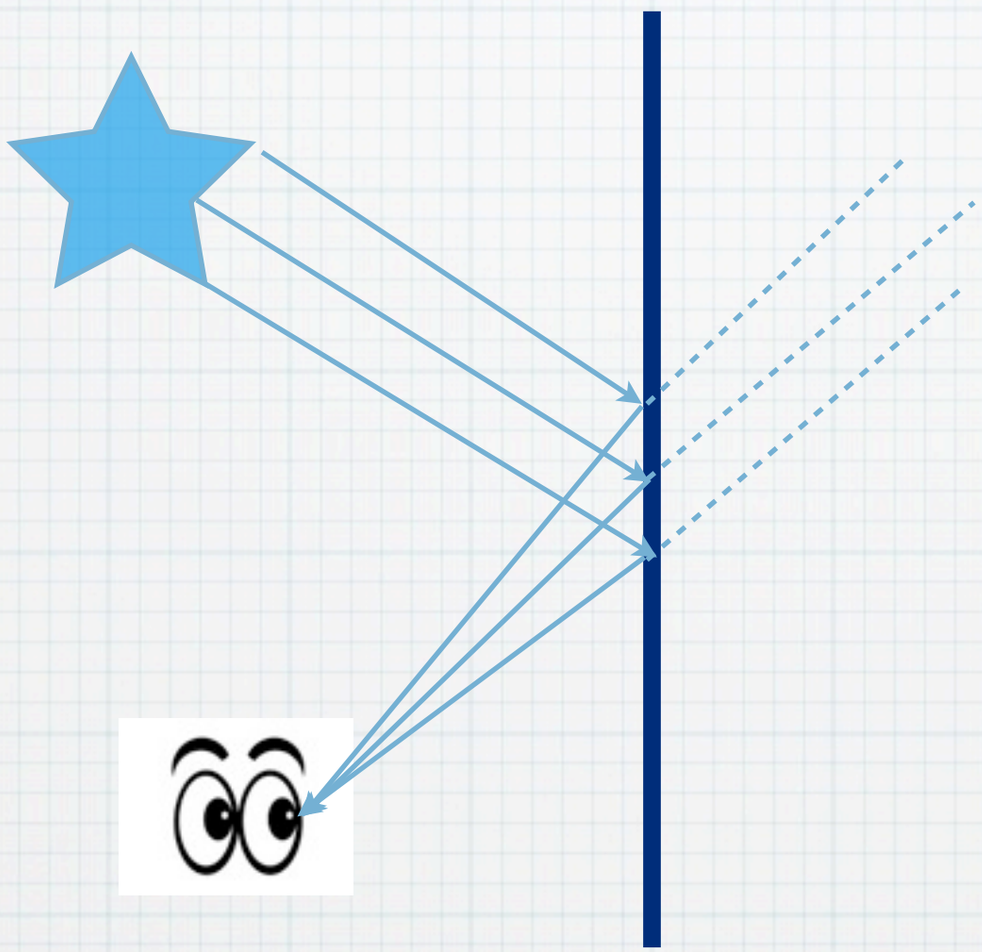

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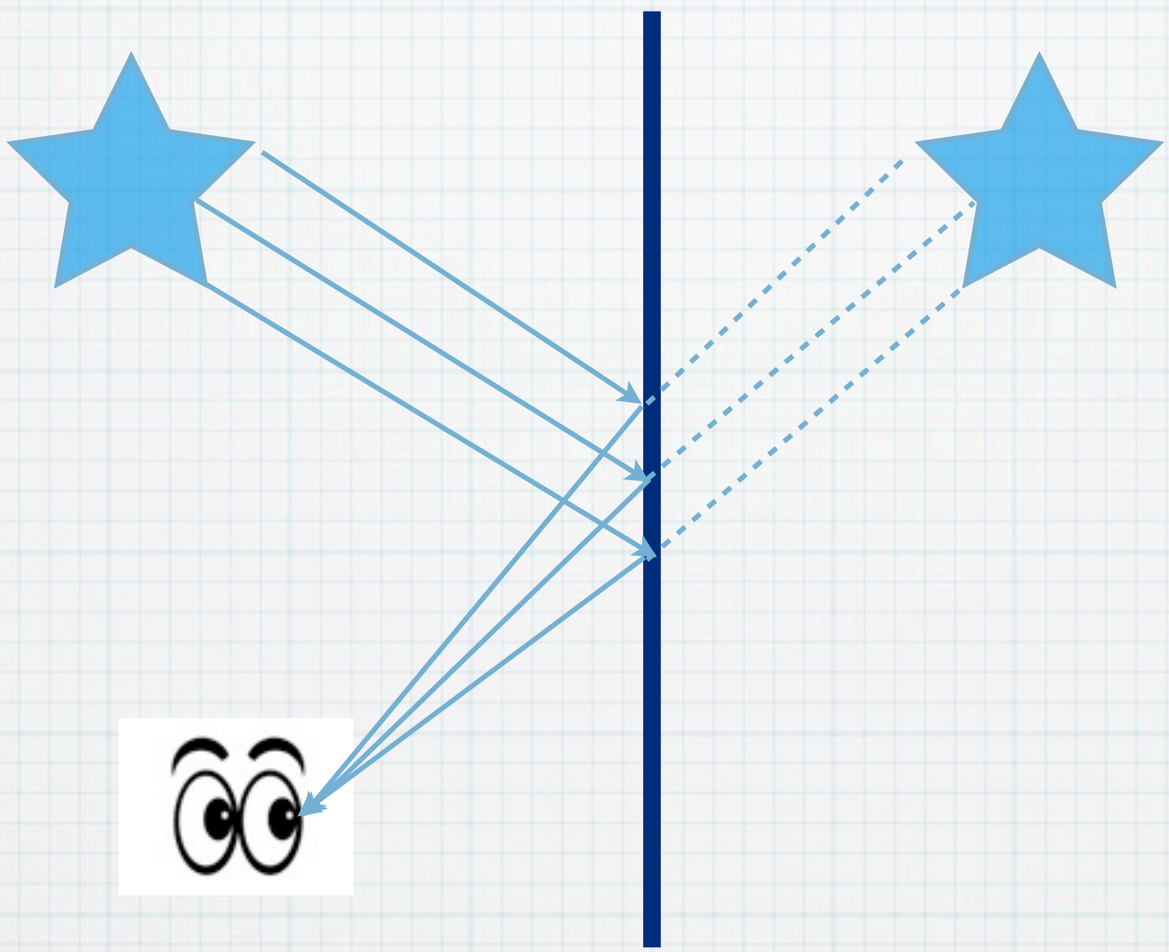

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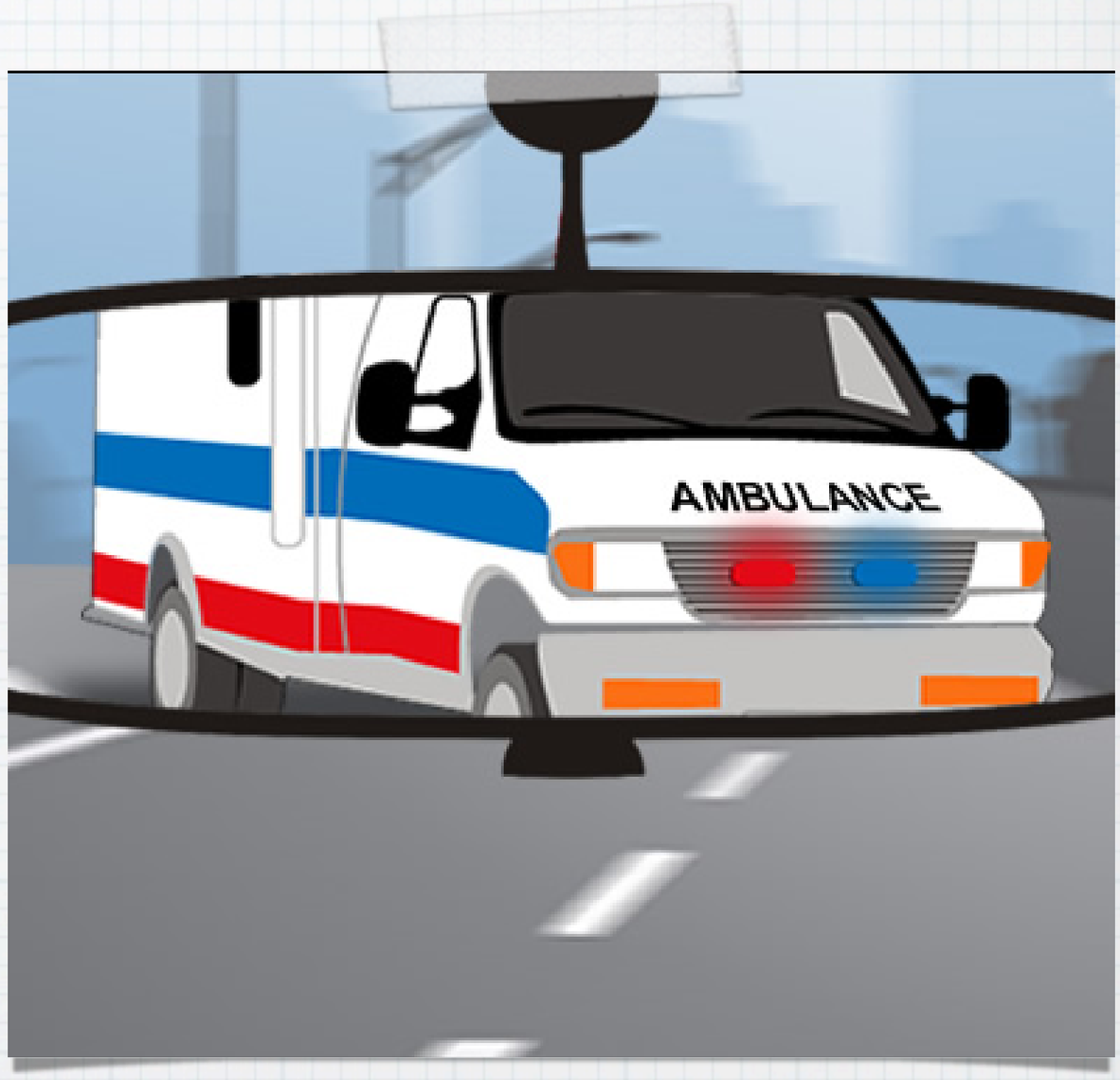
Images in Plane Mirrors

So, why is the word ambulance written backwards on the vehicle?

Images in Plane Mirrors

So you can read the word when you look at it in the rear view mirror



Images in Plane Mirrors

* What is an Image?
  * A copy of an object through the use of light

Four characteristics of an image

* Four characteristics of an image (S.A.L.T.):
* 1.Size - The size of the image seen compared to the original object. (e.g., bigger, smaller, same)

Four characteristics of an image

* 2. Attitude - Orientation of the image seen compared to the original object. (e.g., upright, inverted)

Four characteristics of an image

* 3. Location (e.g., front of mirror, behind mirror, and how far from mirror)

Four characteristics of an image

* 4. Type (e.g., real or virtual)

Types of Images

* Real image - an image that is formed when reflected rays meet
  * can be seen on a screen due to light rays arriving at the image location (e.g., movie screen)

Types of Images

* Virtual image -an image formed by rays that appear to be coming from a certain position, but are not actually coming from this position
  * imagined
  * cannot form a visible projection on screen (e.g., plane mirror)

Homework

* Homework - page 493 # 2, 4, 5, 9