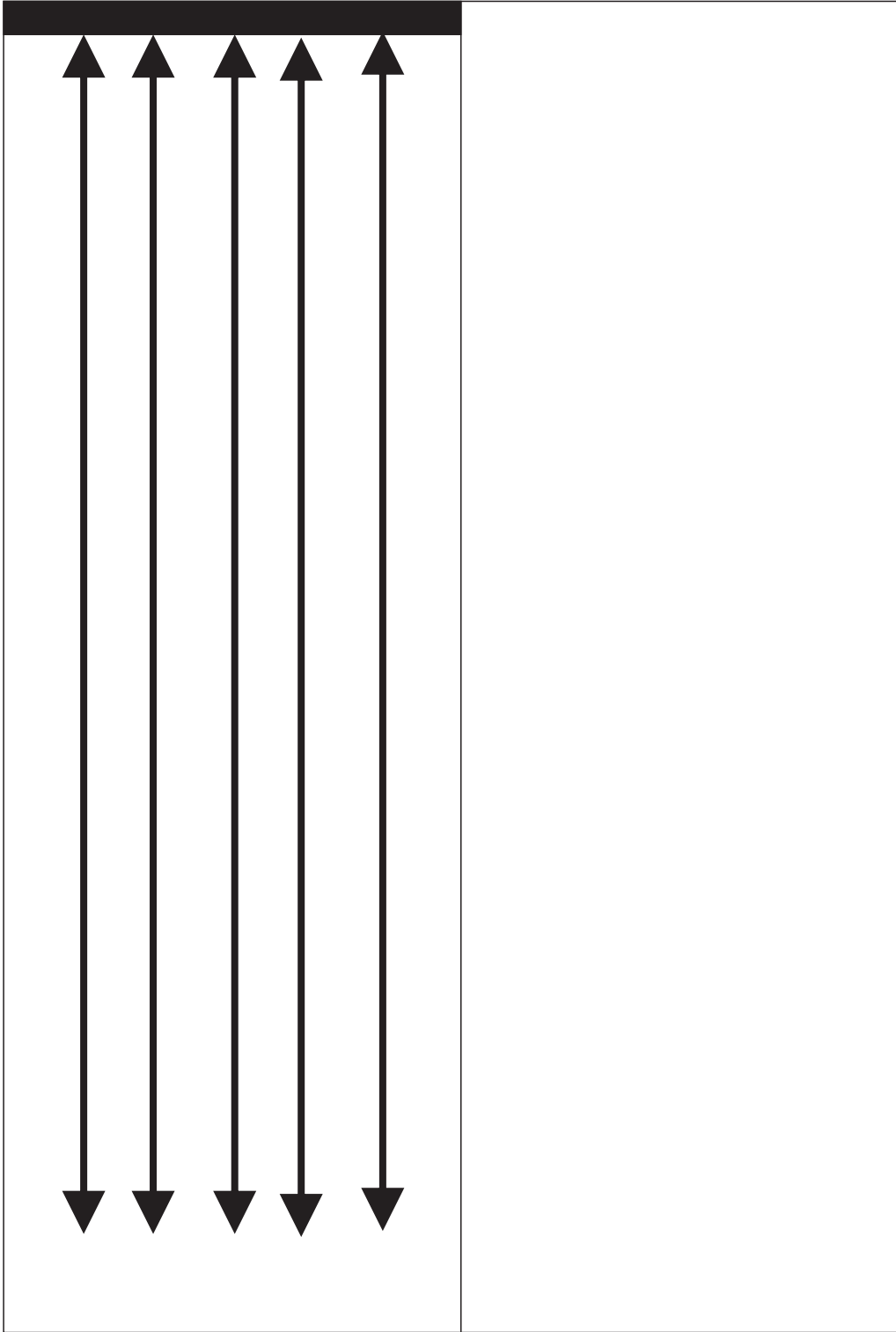


Line of Sight and Some Rules of Optics

- Rule # 1 - Looking straight into a mirror will only reflect your own face back at you. We do not want this to happen. Therefore, the mirror must be positioned so that you cannot see it when looking straight into the box.
- Rule # 2 - Light hitting a mirror will reflect away at the same angle that the light hit the mirror. Looking at a mirror from an angle will reflect whatever is in the direction of the reflection.
- Rule # 3 - The image in the mirror will appear to be as far behind the mirror as the object it is reflecting is in front.

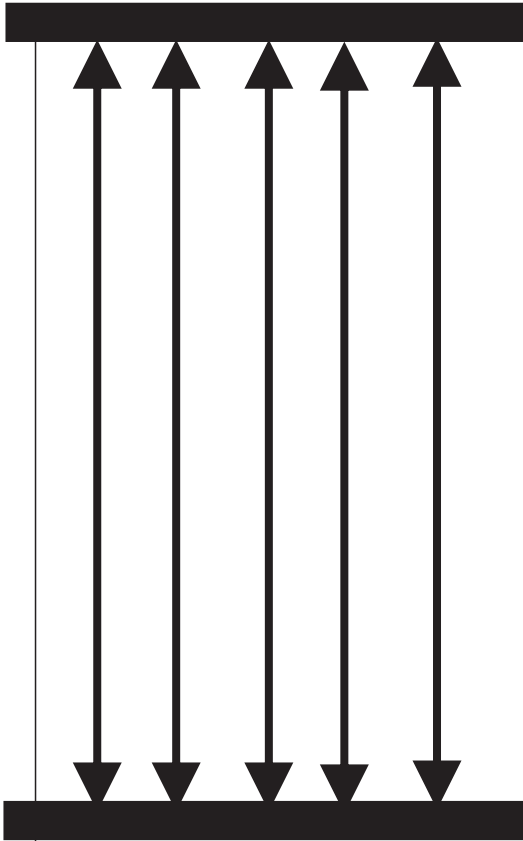
MIRROR



Rule # 1 -
Looking straight into a mirror will only reflect your own face back at you. We do not want this to happen.
Therefore, the mirror must be positioned so that you cannot see it no matter in to which part of the box you look.



MIRROR

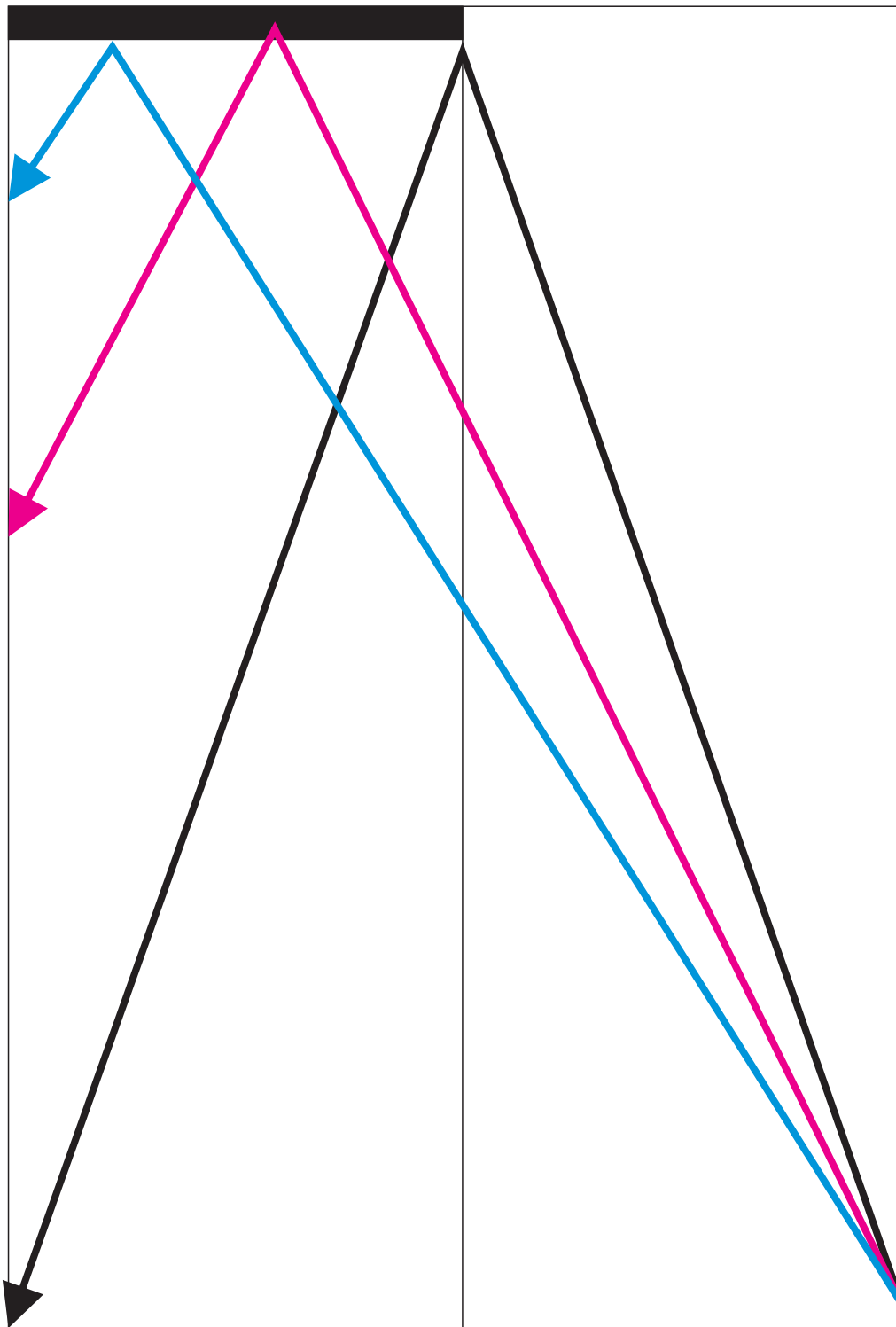


Barrier

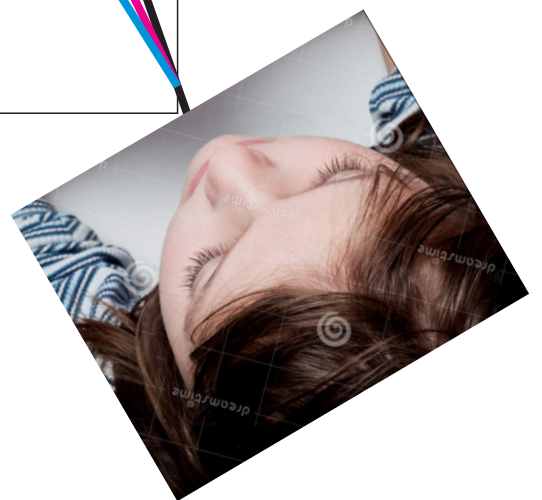
Rule # 1 - Looking straight into a mirror will only reflect your own face back at you. We do not want this to happen. Therefore, the mirror must be positioned so that you cannot see it when looking straight into the box. The easiest way to do this is with a barrier (wall).



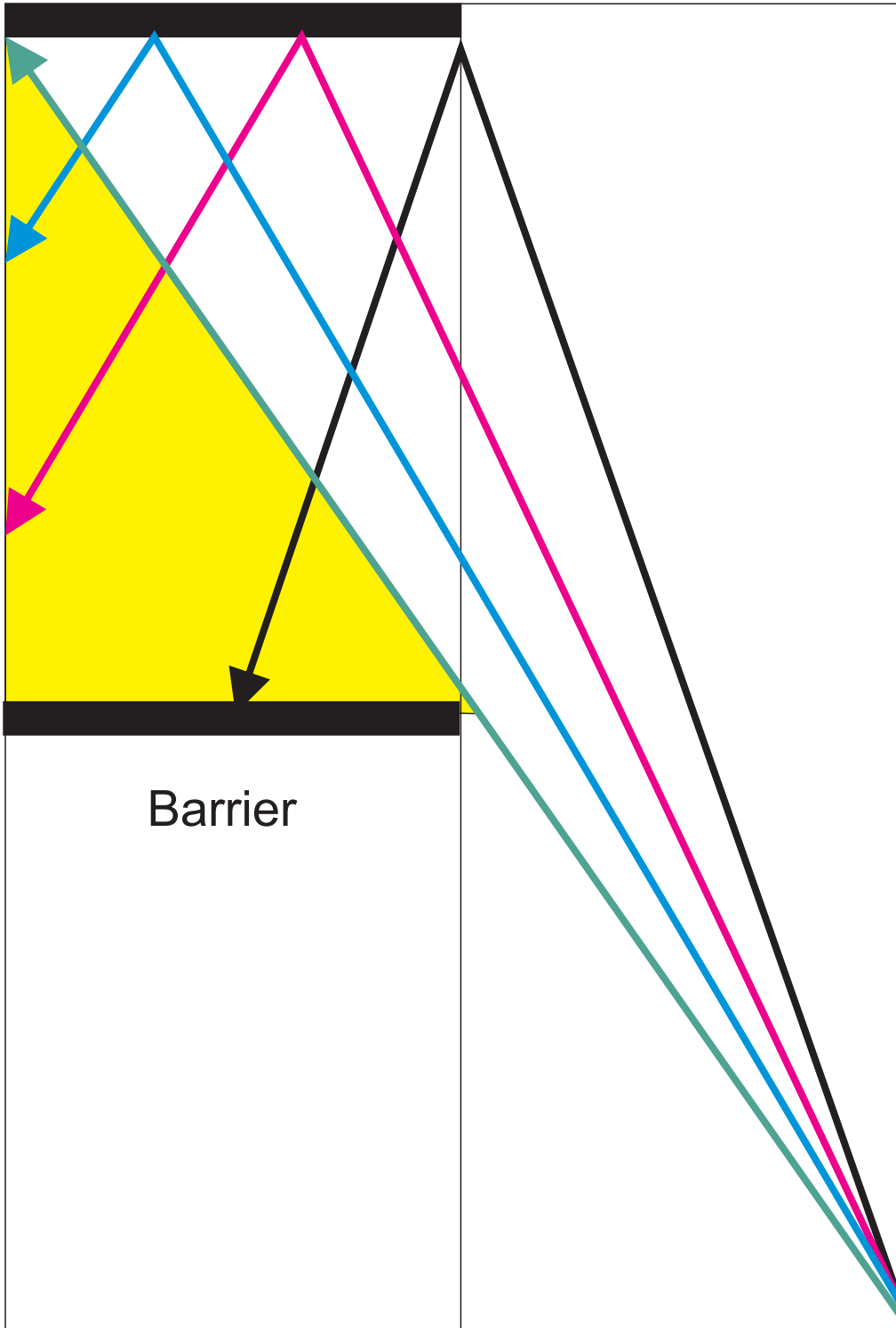
MIRROR



Rule # 2 - Light hitting a mirror will reflect away at the same angle that the light hit the mirror. Looking at a mirror from an angle will reflect whatever is in the direction of the reflection.



MIRROR

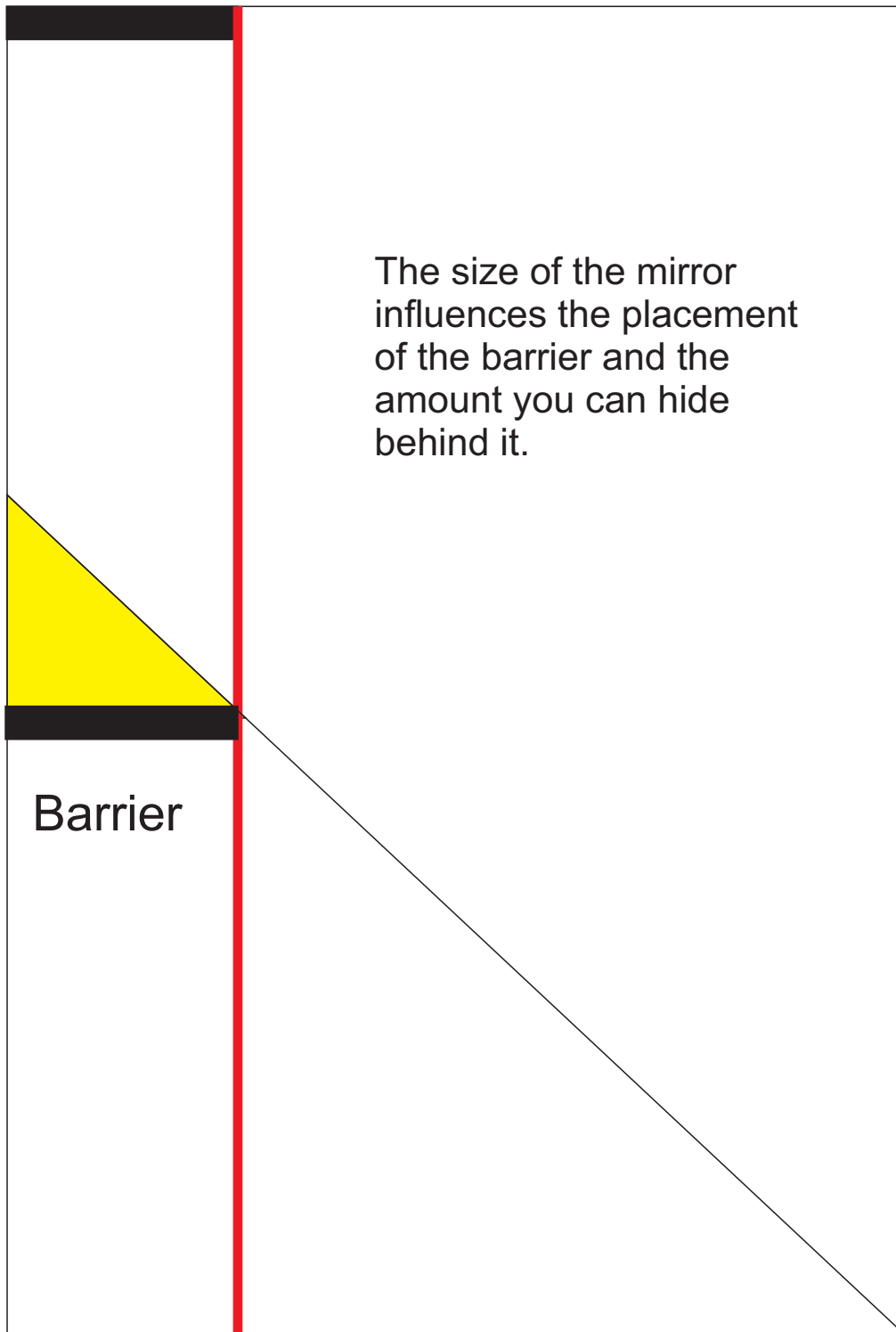


Barrier

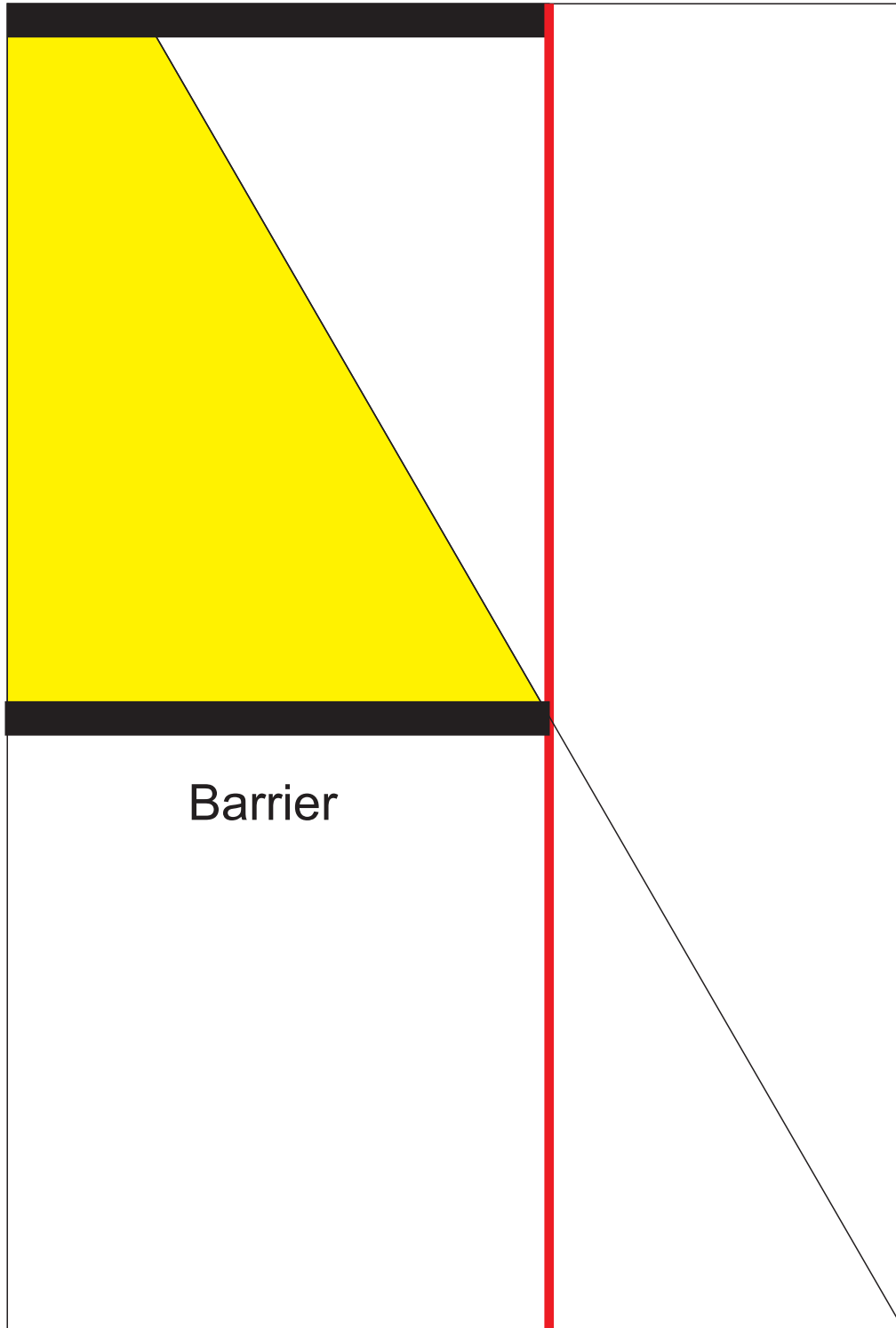
Combining Rule #1 and Rule #2, a mirror placed opposite a barrier will reflect what ever is behind the barrier. Unless you want to show duplicates of an object, it should be hidden out of the sight line behind the barrier.



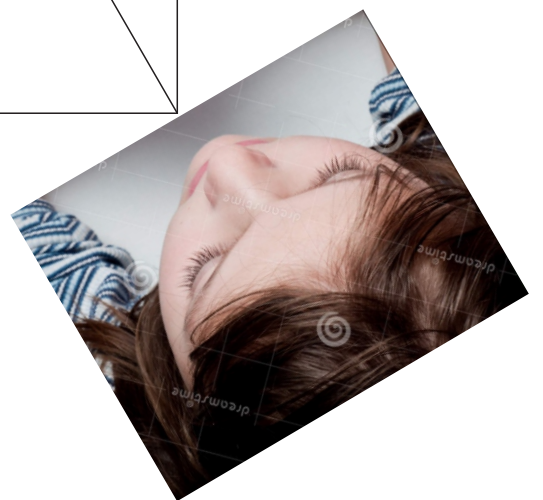
MIRROR



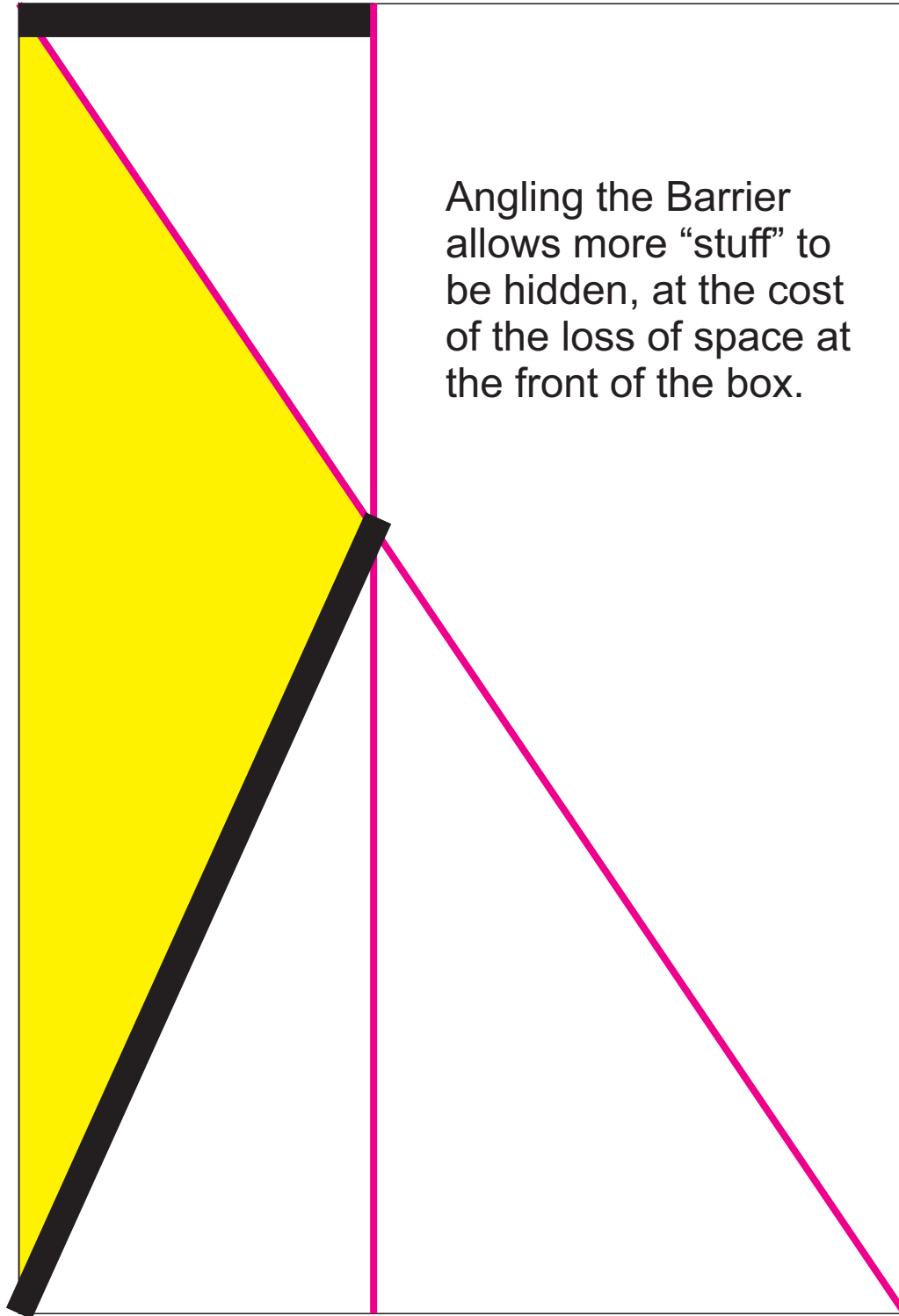
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Barrier



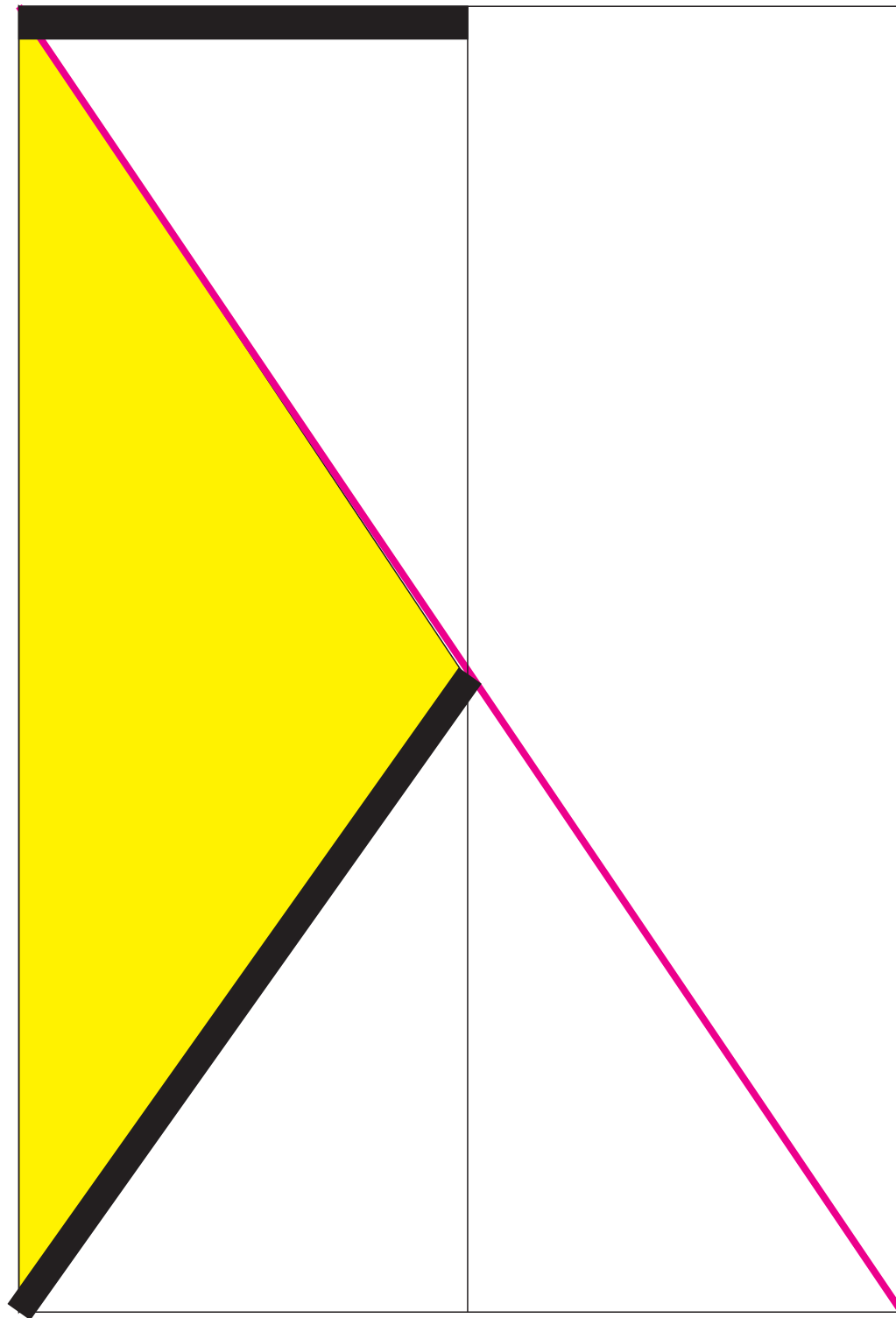
MIRROR



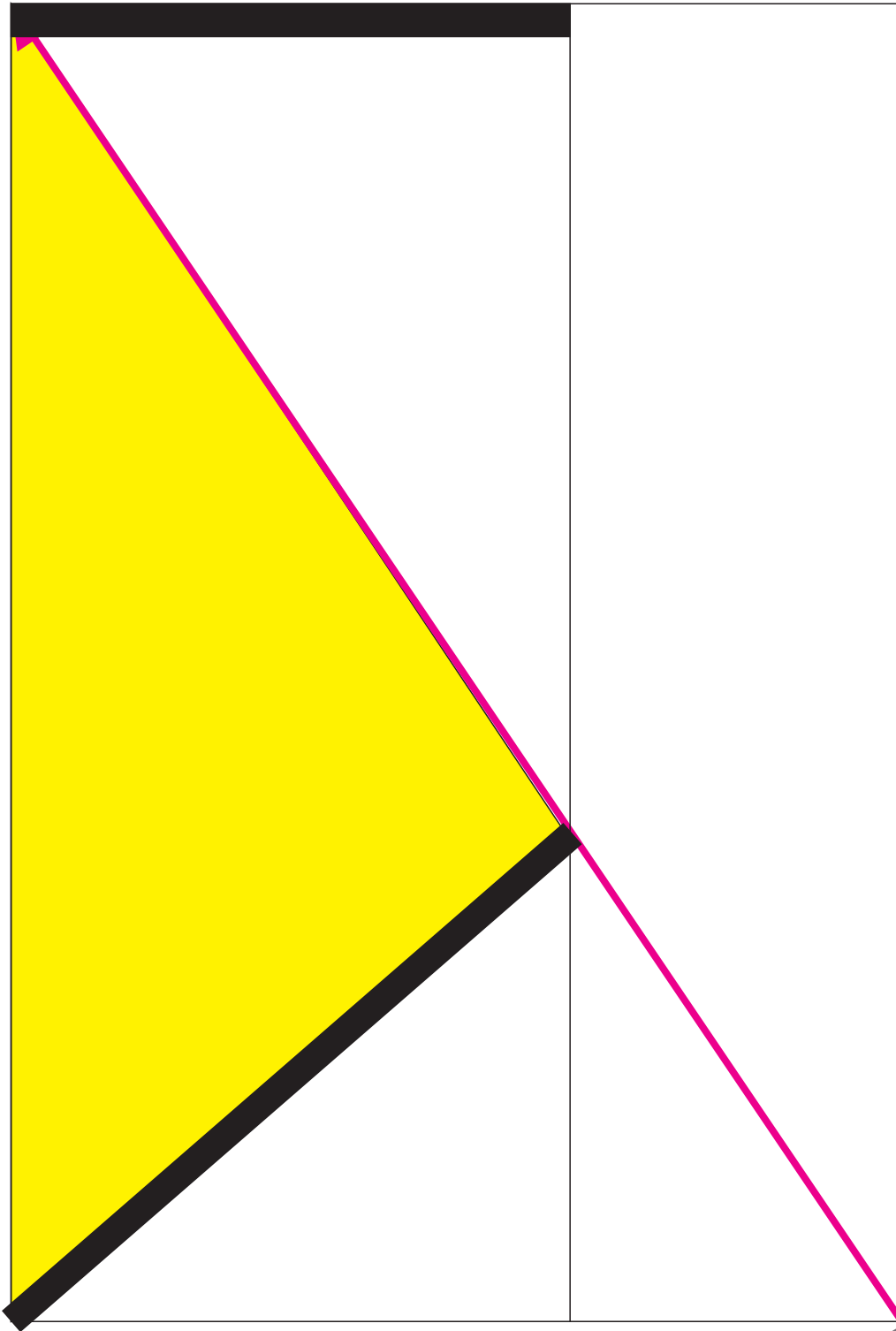
Angling the Barrier allows more “stuff” to be hidden, at the cost of the loss of space at the front of the box.

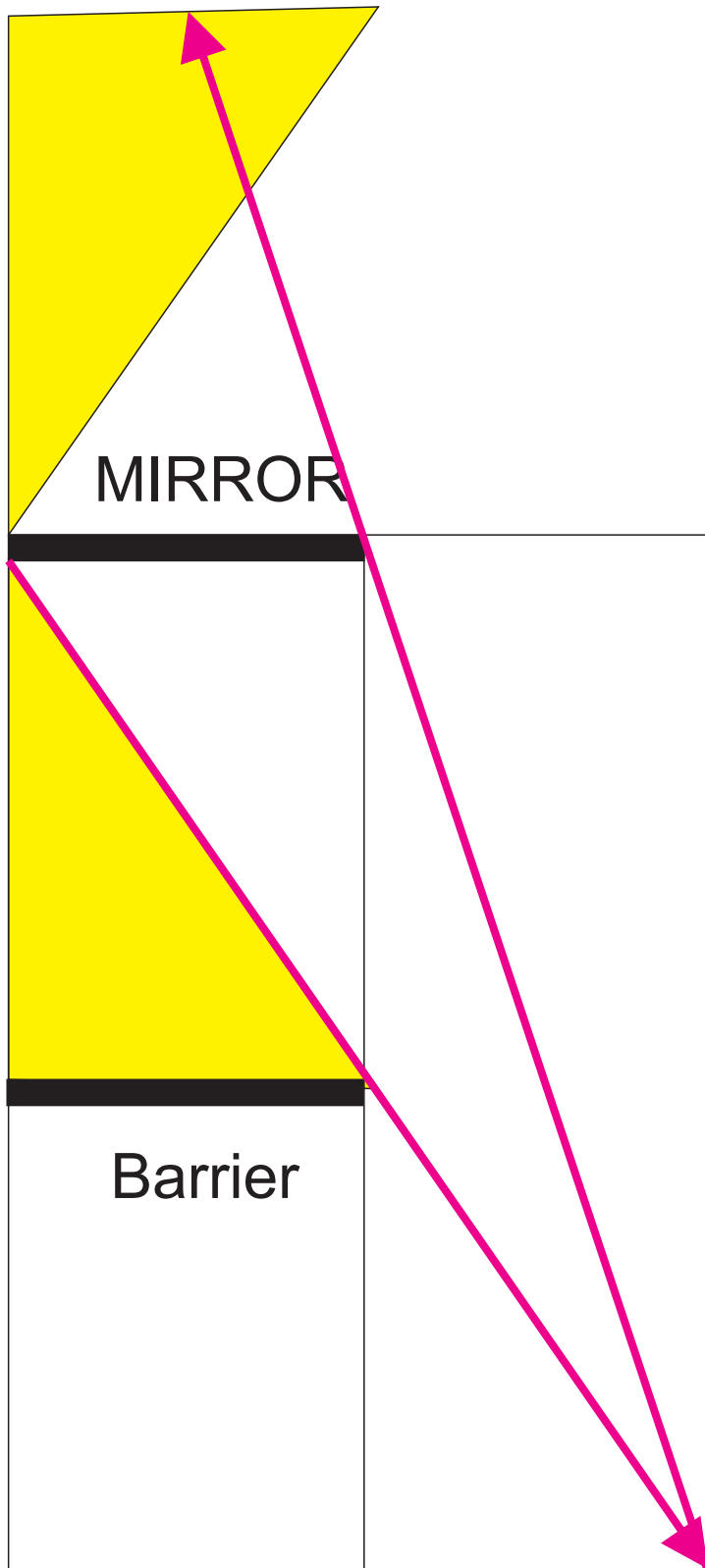


MIRROR



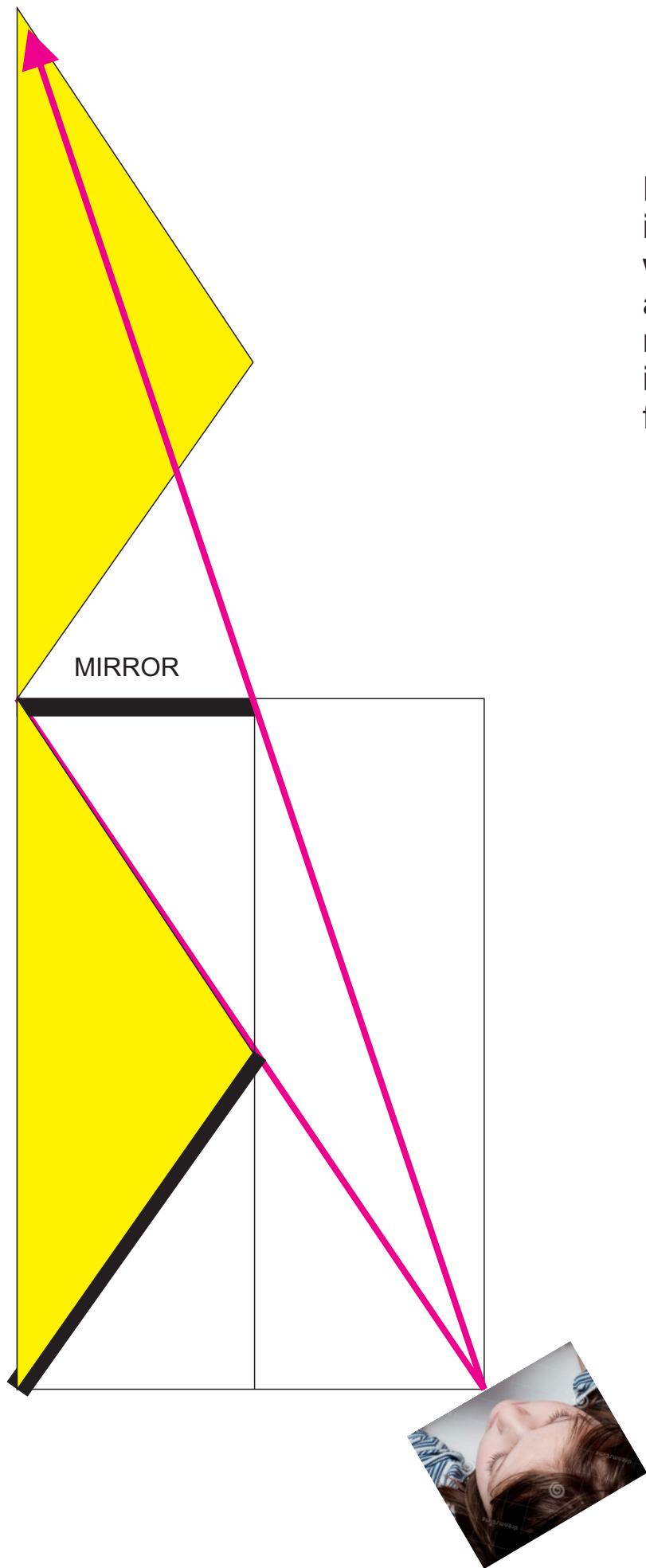
MIRROR



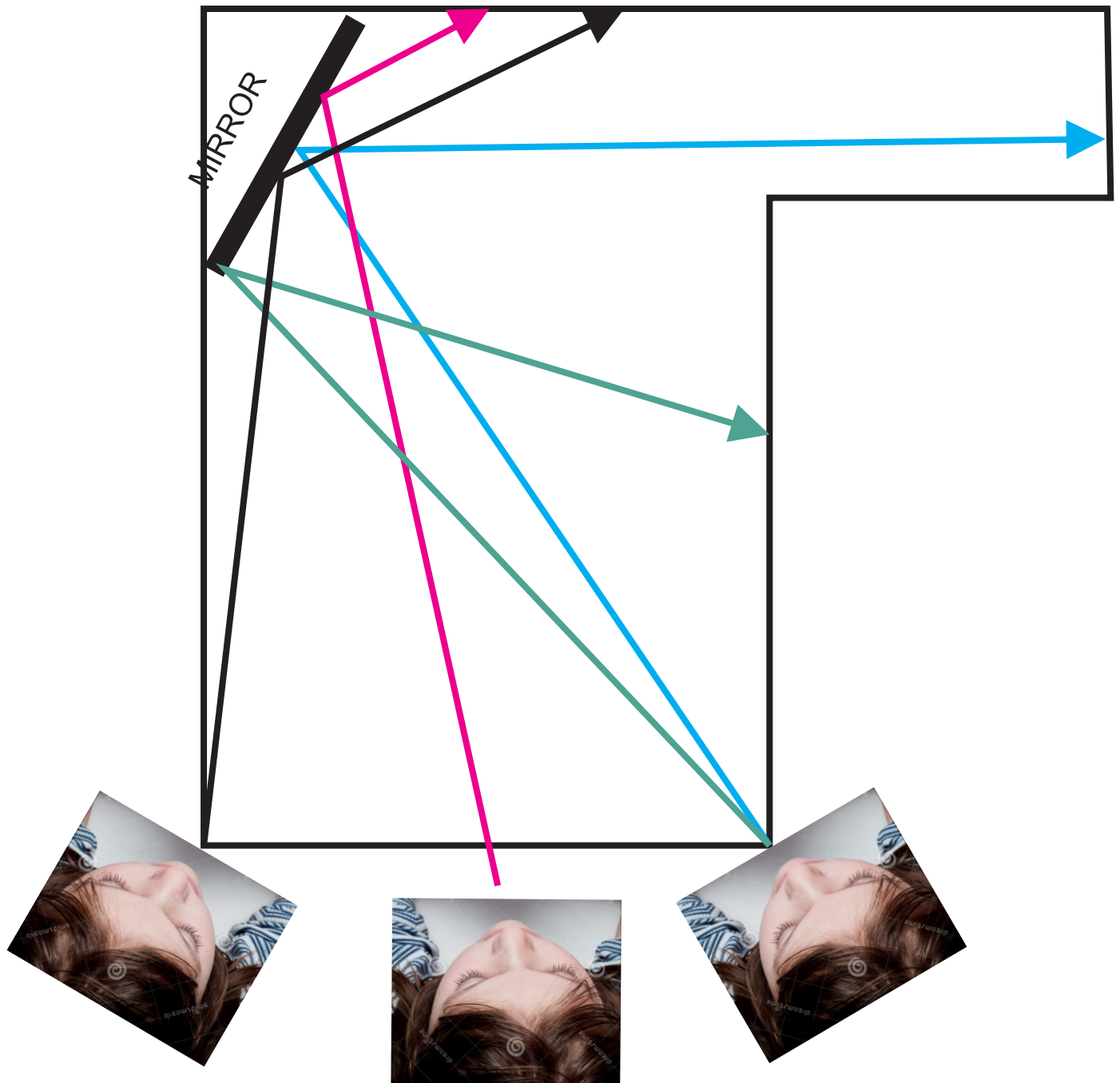


Rule # 3 - The image in the mirror will appear to be as far behind the mirror as the object it is reflecting is in front.





Rule # 3 - The image in the mirror will appear to be as far behind the mirror as the object it is reflecting is in front.



Placing a mirror in other areas of the box gives different effects. Similarly, judicious use of barriers will limit what can be seen and what is hidden. Care should be taken to ensure that the mirror NEVER reflects your face, no matter from where you view the box.

The final answer? You have
four variables:

- The size of the mirror
- The angle/placement of the mirror
- The size/shape of the barrier
- The angle/placement of the barrier.

EXPERIMENT!