Curved Mirrors and Ray Diagrams
SNC2D

A concave mirror is a curved mirror with the reflecting

surface on the _____ of the curve.

The point C is the _____
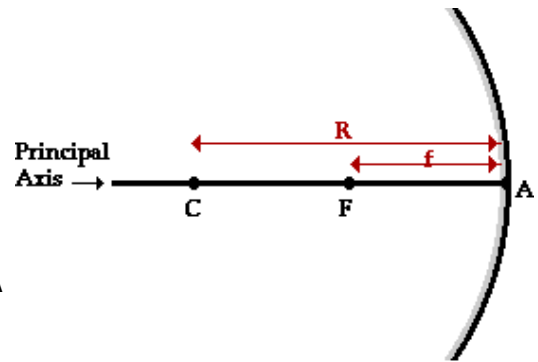
and the distance between C and the _____ A

is the _____, _____.

Halfway between C and A is F, the _____ or _____.

The _____, $f = $ _____.

The focal point is the point at which rays incident _____ to the principal axis will meet after reflection.

Sketch:

(Recall the Law of Reflection. In this case, the normal to the mirror is the _____.)

2 Rules of Reflection

To locate an image, we will use the 2 rules:

- A ray travelling _____ to the principal axis will reflect through the

  _____.

- A ray travelling _____ will reflect _____

  to the principal axis.

Ray Diagrams

Step 1:   From the _____ of the object, draw _____ rays towards the mirror,

One _____ to the axis and one _____.

Step 2:   Reflect these rays according to _____.

Step 3:   Mark the image of the top of the object at the _____ of the
reflected rays.

Step 4:   The bottom of the image forms _____.
Draw your complete image.

The characteristics of the image formed by the mirror will change with the _____
of the object.

Practice Sheet: "Concave Mirrors and Ray Diagrams"

Answers

The image of an object beyond the centre of curvature of the mirror is:

S: _____   A: _____

L: _____   T: _____

The image formed by an object at C is

S: _____   A: _____

L: _____   T: _____

The image formed by an object between C and F is

S: _____   A: _____

L: _____   T: _____

There is _____ image formed by an object at F.

The image formed by an object between F and the mirror is

S: _____   A: _____

L: _____   T: _____

A **convex mirror** is a curved mirror with the reflecting surface on the _____ of the curve.
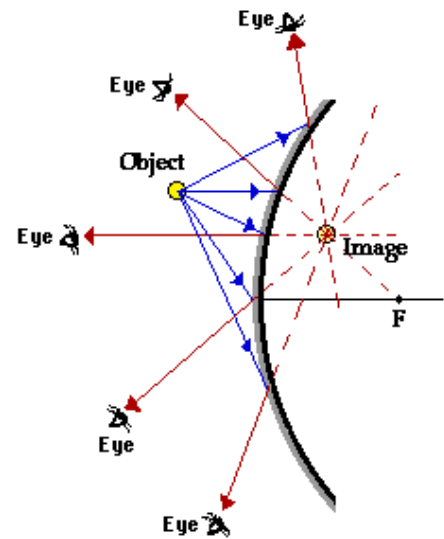
The centre of curvature and the focal point will be on the _____ side of the mirror.

The focal length will be _____.

Sketch:

Light rays reflecting from a convex mirror will

_____, i.e. never intersect.

Any image formed is therefore *always* _____.

Revised Rules of Reflection

- A ray travelling parallel to the principal axis will reflect such that *the extension of the reflected ray will pass* _____.

- A ray travelling towards the mirror such that *its extension* will pass through the focal point will reflect _____.

Ray Diagram:

The image is:

      S: _____   A: _____

      L: _____   T: _____