Worksheet – Spherical Mirror Images

$$\frac{1}{d_i} + \frac{1}{d_o} = \frac{1}{f} \qquad \frac{h_i}{h_o} = \frac{-d_i}{d_o}$$

In every problem, draw a ray diagram to confirm your answer.

1. A concave mirror has a focal length of 18 cm. Where will an image form if an object is placed 58 cm from the mirror?
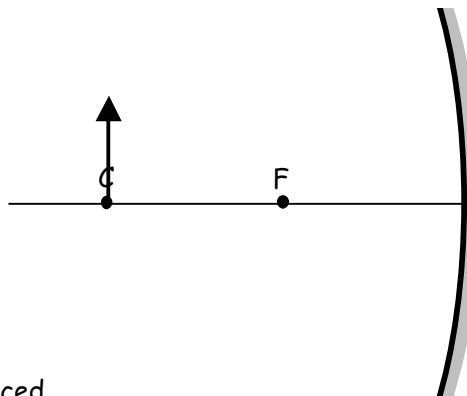
   If the object is 12 cm tall, what will be the height of the image?

   C   F
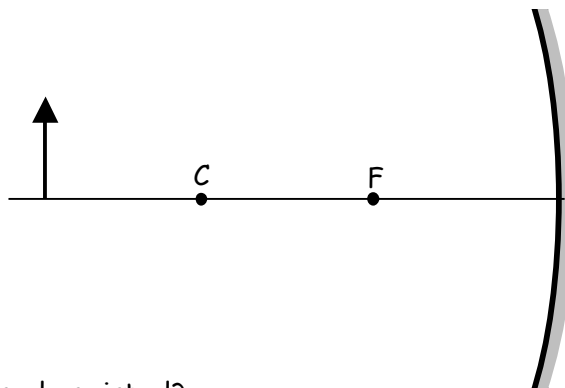
   Is the image erect or inverted? _____   real or virtual? _____

2. Where will the image form if the same object is placed 36 cm in front of the same mirror as in #1?

   How tall is the image?

   C   F

   Is the image erect or inverted? _____
              real or virtual? _____

3. Where will the image form if the same object is placed 32 cm in front of the same mirror as in #1?
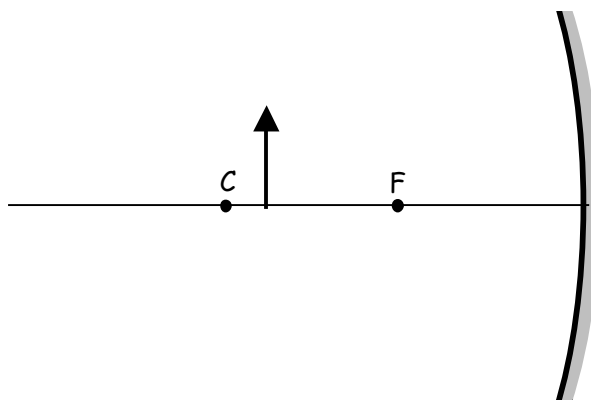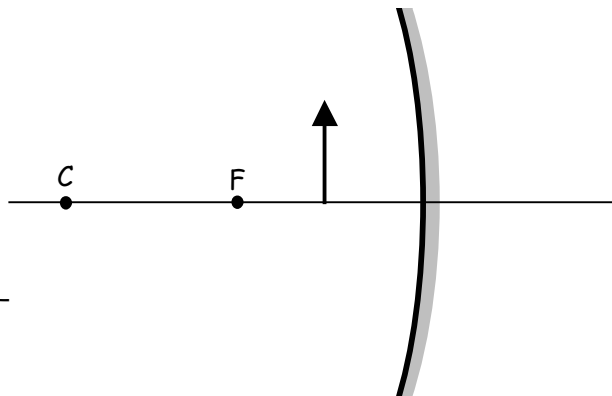
   How tall is the image?

   C   F

   Is the image erect or inverted? _____
              real or virtual? _____

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4. Where will the image form if the same object is placed 6.0 cm in front of the same mirror as in #1?
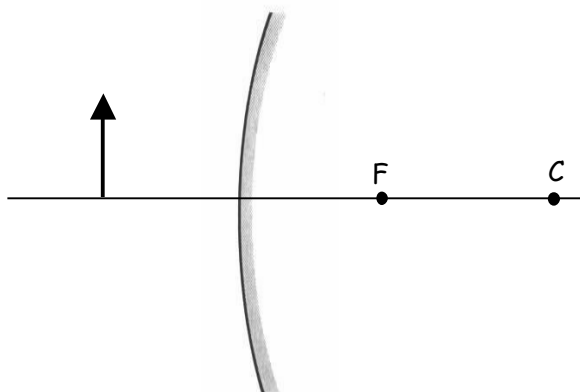
    How tall is the image?

    C   F

    Is the image erect or inverted? _____
              real or virtual? _____

5. Where will the image form if the same object is placed 15 cm in front of a **convex** mirror with a focal length of 18 cm? (*Hint: The focal length is **behind** the mirror.*)

    How tall is the image?

    F   C

    Is the image erect or inverted? _____
              real or virtual? _____