A. The absolute value of the radius of curvature of the mirror below is 20 cm. If an object (source) is 5 cm from the vertex as shown, find the image distance and magnification. (Include signs!)

\[ R = \frac{1}{2} \frac{1}{f} = \frac{1}{2} \frac{1}{5} = \frac{1}{10} \]

\[ s = -5 \text{ cm} \]

\[ s' = -10 \text{ cm} \]

\[ m = \frac{s'}{s} = \frac{-10}{-5} = 2 \]

Image distance: \( -10 \text{ cm} \)

Magnification: \( +2 \)

Also answer the following multiple choice for the above problem.

1. 2. Choose one: The image is \( \text{Erect, Inverted} \)

2. 3. " " : The image is \( \text{Smaller, Larger, Same Size} \)

2. 4. " " " : The image is on the (Same, Opposite) side of the mirror as the object.

2. 5. Choose one: The image is on the (Same, Opposite) side as the reflected rays.

2. 6. Choose one: The image is \( \text{Real, Virtual} \).

B. For the plane mirror below, use a straight edge to draw in two rays from the tip of the arrow to locate the image. Use real rays as solid lines and extension of real rays as dashed lines.

Note: The marks on the axis are 1 cm apart. Include arrows on your real rays to indicate direction.