KEY

First Name:_____ Last Name:_____

L05 - Formative Quiz – Reflection Equations

Use the following information to answer Q1 to Q3.

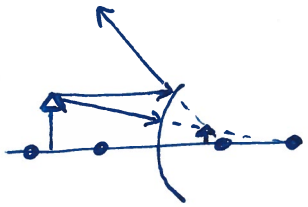
A convex mirror has a focal point 5cm away from the vertex. An object that is 10cm tall is placed 8cm from the vertex.

Image Characteristics

1 – Real	3 – Erect	5 – Enlarged
2 – Virtual	4 – Inverted	6 – Diminished

Q1: Using the **Image Characteristics** above, the image can best be described as:

Type: 2 Attitude: 3 Magnification: 6



*(Record your **three-digit** answer in the numerical response boxes below.)*

2	3	6	

→ Always true for Convex mirrors.

Q2: How far from the vertex is the image located, in centimeters?

Doesn't matter that the image is on the negative side due to wording.

*(Record your **three-digit** answer in the numerical response boxes below.)*

3	.	0	8

$$\frac{1}{f} = \frac{1}{d_o} + \frac{1}{d_i}$$

$$\frac{1}{f} - \frac{1}{d_o} = \frac{1}{d_i}$$

$$\frac{1}{-5} - \frac{1}{8} = \frac{1}{d_i}$$

$$-0.325 = \frac{1}{d_i}$$

$$\boxed{d_i = -3.0769\text{cm}}$$

$$d_i \approx -3.08\text{cm}$$

Use unrounded answer for next question.

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KEY

Q3: What is the height of the image, in centimeters?

*(Record your **three-digit** answer in the numerical response boxes below.)*

3	.	8	5

$$m = \frac{-d_i}{d_o} = \frac{h_i}{h_o}$$

$$\frac{-(-3.076923076923)}{8} = \frac{h_i}{10}$$

$$h_i = 3.8461\ldots \text{ cm}$$

$$h_i \approx 3.85 \text{ cm}$$

MARKING:

Beginning	0-1
Progressing	2
Competent	3
Exemplary	4