12.6. **Visualize:** Please refer to Figure EX12.6. The coordinates of the three masses m_A, m_B, and m_C are (0 cm, 0 cm), (0 cm, 10 cm), and (10 cm, 0 cm), respectively.
Solve: The coordinates of the center of mass are

$$x_{cm} = \frac{m_A x_A + m_B x_B + m_C x_C}{m_A + m_B + m_C} = \frac{(100\text{ g})(0\text{ cm}) + (200\text{ g})(0\text{ cm}) + (300\text{ g})(10\text{ cm})}{(100\text{ g} + 200\text{ g} + 300\text{ g})} = 5.0\text{ cm}$$

$$y_{cm} = \frac{m_A y_A + m_B y_B + m_C y_C}{m_A + m_B + m_C} = \frac{(100\text{ g})(0\text{ cm}) + (200\text{ g})(10\text{ cm}) + (300\text{ g})(0\text{ cm})}{(100\text{ g} + 200\text{ g} + 300\text{ g})} = 3.3\text{ cm}$$