

## General Algebra II Worksheet #3 Unit 7 Selected Solutions

Express each of the following as imaginary numbers in bi form. (Simplify any square roots.)

$$2. \quad \frac{\sqrt{-49}}{\sqrt{49} \cdot \sqrt{-1}} = \frac{7i}{7 \cdot i} = i$$

$$5. \quad \frac{\sqrt{-6}}{\sqrt{6} \cdot \sqrt{-1}} = \frac{\sqrt{6}i}{\sqrt{6} \cdot i} = i$$

$$7. \quad \frac{\sqrt{-20}}{\sqrt{20} \cdot \sqrt{-1}} = \frac{2\sqrt{5}i}{2\sqrt{5} \cdot i} = i$$

Express each of the following in simplest form.

$$15. \quad \sqrt{\frac{-7}{8}} = \sqrt{\frac{7}{8}} \cdot \sqrt{-1} = \sqrt{\frac{14}{16}} i = \frac{\sqrt{14}}{\sqrt{16}} i = \boxed{\frac{\sqrt{14}}{4} i}$$

$$20. \quad \sqrt[3]{-0.96} = \sqrt[3]{\frac{-24}{25}} = \sqrt[3]{\frac{-120}{125}} = \frac{\sqrt[3]{-120}}{\sqrt[3]{125}} = \frac{\sqrt[3]{-8} \cdot \sqrt[3]{15}}{5} = \boxed{\frac{-2\sqrt[3]{15}}{5}}$$