**Math 10C Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Roots and Powers**

**Fractional Exponents and Radicals Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Evaluate each power without using a calculator.

a) $16^{\frac{1}{2}}$ b) $36^{\frac{1}{2}}$ c) $64^{\frac{1}{3}}$ d)$ (-27)^{\frac{1}{3}}$

2. Write each power as a radical.

a) $36^{\frac{1}{3}}$ b) $48^{\frac{1}{2}}$ c) $(-10)^{\frac{3}{5}}$ d) $4^{\frac{2}{3}}$

3. Write each radical as a power.

a) $\sqrt{39}$ b) $\sqrt[3]{29}$ c) $\sqrt[4]{90}$ d) $\sqrt[5]{2^{3}}$

4. Evaluate each power without using a calculator.

a) $9^{\frac{3}{2}}$ b) ( $\frac{27}{8})^{\frac{2}{3}}$ c)$\left(-27\right)^{\frac{2}{3}}$ d) $(\frac{4}{25})^{\frac{3}{2}}$