

**Take-Home Quiz #12**

Form G

**Radicals****Simplify each radical expression. Use absolute value symbols when needed.**

1.  $\sqrt{25y^2}$

2.  $\sqrt{49x^4}$

3.  $\sqrt[3]{-8x^9}$

4.  $\sqrt[3]{-0.125y^6}$

**Find the two real solutions of each equation.**

5.  $9x^2 - 4 = 0$

6.  $x^4 = 0.0016$

**Multiply or divide and simplify. Assume that all variables are positive.**

7.  $\sqrt{2x} \cdot \sqrt{18xy^2}$

8.  $\frac{\sqrt[3]{4xy^7}}{\sqrt[3]{32x^4y^4}}$

**Simplify. Rationalize all denominators.**

9.  $\sqrt[3]{180} + \sqrt{45} - 8\sqrt{20}$

10.  $\frac{5 + \sqrt{3}}{2 - \sqrt{3}}$

**Simplify each expression.**

11.  $(-125)^{\frac{2}{3}}$

12.  $81^{\frac{3}{4}}$

13.  $32^{0.6}$

14.  $49^{1.5}$

**Solve. Check for extraneous solutions.**

15.  $\sqrt{x-2} = x-8$

16.  $\sqrt{x+4} = \sqrt{3x-2}$