Quiz 1 — 14 January 2020

> Answer the questions in the spaces provided. **Show all of your work and circle the answer you would like to have graded for each question.**

Name and section: _____

1. Given that x and y are both *positive* real numbers, simplify

$$\frac{\sqrt[3]{27x^6y^3}}{\sqrt{18x^6y^2}}.$$

2. Find a real number u for which $\sqrt{u^6} \neq u^3$.

3. How many real solutions does the equation $(x-3)^2 + 9 = 5$ have? Explain.