

# Quiz 1

January 29, 2008

Mathematics for Business

22M:013:SCA TTh 6:00 - 8:00 PM

Instructor: Matt Stoeckel

**Name:**

Show all work! Unless otherwise stated give the exact value.

1. For the following, sketch the given subset on the real number line. Make sure to label with numbers where appropriate.

(a)  $x \leq 5$

(b)  $-3 \leq x < 2$

(c)  $[-2, 5)$

(d)  $(-\infty, 2)$

2. Perform the operations and simplify.

$$\frac{(2x^2)^{3/2}}{2^{1/2}x^4}$$

3. Convert the following radical forms to rational exponent forms.

(a)  $\sqrt{9}$

(b)  $\sqrt[3]{64}$

(c)  $(\sqrt[4]{81})^3$

4. Convert the following rational exponent forms to radical forms.

(a)  $32^{1/5}$

(b)  $3^{1/2}$

(c)  $8^{2/3}$

5. In the following, rationalize the denominator and simplify.

(a)

$$\frac{12}{\sqrt{3}}$$

(b)

$$\frac{8}{1 - \sqrt{2}}$$