

Math 98 Practice Problems for Exam #1

Exam #1 will cover sections 10.1-10.5. You can use a notesheet (8.5×11 , both sides, hand-written) during the exam. A calculator will be provided on the exam.

Here are **some** problems from previous exams. Be sure to also look at previous homework problems and worksheets.

1. Review at the end of chapter 10 (Pgs. 698-701): 1-16, 19, 21, 22-29, 32-81, 84-89, 92-102

2. Simplify the following as much as possible.

(a) $\sqrt{\frac{m^6}{81}}$

(b) $2a^{2/3}(a^{4/3} - 3a^{-5/3})$

(c) $\sqrt[4]{r^3} \cdot \sqrt[8]{r^3}$ (Leave your answer in exponential form.)

(d) $\sqrt[3]{16x^6y^{11}}$

(e) $4 - \sqrt{6} + 3\sqrt{54}$

(f) $\frac{\sqrt{27}}{2+\sqrt{3}}$ (Rationalize the denominator and simplify.)

(g) $\sqrt[6]{y^5} \cdot \sqrt[3]{y^2}$ (Give answer in exponential form.)

(h) $\left(\frac{a^{-2}b^3}{a^4b^{-3}}\right)^{-\frac{2}{3}}$ (Give answer with positive exponents only.)

(i) $-\sqrt{100x^6y^4}$

(j) $2\sqrt{18a^3} + 5a\sqrt{72a}$

(k) $\frac{\sqrt{8}}{2-\sqrt{2}}$ (Rationalize the denominator and simplify.)

(l) $\sqrt{\frac{9}{x^6}} + \sqrt{\frac{1}{25}}$ (Write the answer as one fraction.)

3. Graph $g(x) = \sqrt{x+4}$ and state the domain and range of g .

4. (10 pts.) Find the distance between the points $(1, -3)$ and $(-4, 2)$. Simplify your answer.
5. Find the distance between the points $(\sqrt{6}, 2)$ and $(-\sqrt{6}, -1)$.