

Math 121**Quiz 4**

Justify all answers with neat and organized work. Clearly indicate your answers.
10 points possible.

1. Solve the quadratic equation for x by **factoring**.

(a) (2 pts.) $x^2 + 5x = 24$

(b) (2 pts.) $3x^2 + 1 = 4x$

2. (2 pts.) Rationalize the numerator. Then simplify your answer.

$$\frac{\sqrt{27}}{3}$$

3. (2 pts.) Simplify the expression. Do not leave negative exponents or fractional exponents in your answer.

$$\frac{(3x^2)^{3/2}}{3^{1/2}x^5}$$

4. (2 pts.) Completely factor the expression.

$$4(x + 3)^3(x + 4)^7 + 7(x + 3)^4(x + 4)^6$$