Quiz #5 (Take-home)

1. Simplify: $\dfrac{\left[3x\sqrt[5]{x^2+2x+1}\right]^3}{\sqrt{9x\sqrt[3]{x+1}}}$

2. Simplify: $\sqrt{28x} + \sqrt{63x}$

3. Put into general form and solve by completing the square:

$$2x^2 + 11x - 2 = x(x+8)$$

4. A person stands on top of a 100ft cliff and releases a rock. How long does it take the rock to hit the ground if:

a. The rock is simply dropped.

b. The rock is thrown downward at 10 ft/s.

c. the rock is thrown upward at 10 ft/s.

d. What does the discarded solution in each case represent?

5. Simplify: $\dfrac{\left(\frac{x^2+6x+5}{x^2+3x+2} - \frac{x-2}{x-5}\right)}{\frac{x^2+5x+6}{x-5}}$

6. Solve for x: $(x+1)^4 = 16$

7. Solve for x: $4x^4 + 12x^2 - 3 = 0$