Homework 1

This needs to be turned in by: July 1st, at the beginning of class. Please write your work and answers on a separate sheet of paper and box your final answers. Don't forget your name.

1. Simplify
(a) 10^0
(b) 13^1
(c) 12^{-2}
(d) $(2x)^3$
(e) $\left(\frac{8}{12}\right)^2$
(f) $(3^2)^3$
(g) 0^{10}
(h) $(-9)^2$
(i) $(-9)^3$
(j) Write as a radical: $14^{4/7}$

2. Simplify. State "DNE" if answer does not exist.
(a) $\sqrt{100}$
(b) $\sqrt[3]{64}$
(c) $\sqrt[3]{-64}$
(d) $\sqrt{-100}$
(e) $\sqrt{9x^4}$
(f) $\sqrt{\frac{y^3}{12}}$
(g) Write as an exponent: $\sqrt[5]{13^2}$

3. Simplify:
$$\left(\frac{7y^{-2}t^{-4}}{11y^3t^{-12}}\right)^3$$

4. Simplify:
$$5\sqrt{12} + 3\sqrt{3}$$

5. Draw a factor tree for 192. Make the appropriate circles and boxes for $\sqrt{192}$. What is $\sqrt{192}$?

6. Simplify:
$$\sqrt[5]{x^3} \cdot \sqrt[10]{x^7}$$