Math 1110: Answers for 1.5 Practice Problems

Problem 1 1.5: #22: See HW solutions on Moodle after the assignment is due.

Problem 2 1.5: #30: See HW solutions on Moodle after the assignment is due.

Problem 3 1.5: #33: See HW solutions on Moodle after the assignment is due.

Problem 4 (a) $s = 15000e^{rt}$,  
(b) $r = \frac{\ln 2}{10}$

Problem 5 $(x^x)^x = x^{(x-x)} = x^{(x^2)}$. For this to equal $x^{(x^x)}$, we need $x^2 = x^x$. This happens when the exponents are set to be equal (i.e. $x = 2$) but also is true when $x = 1$, since $1^2 = 1 = 1^1$.

Problem 6 \[
\frac{(3^{-1}a^4b^{-3})^{-2}}{(6a^2b^{-1}c^{-2})^2} = \frac{b^8c^4}{4a^{12}}
\]

Problem 7 a) $x = 20$,  
b) $x = 10$

Problem 8 Optional Challenging Problem: If $x^{x^3} = 3$, then $x = 3^{\frac{1}{3}}$. 
