Homework 11

1. I would find 4^3 = 64 and 5^3 = 125 to conclude that the cubed root of 82 is not 4, but it would be if it needed to round to an integer value.
2. We cannot conclude that, because there are a large amount of numbers between values to a certain power. Using the example from question 1, any number n between (not including) 64 and 125 would fit the requirements, but 'root' would still not be equal to the rth root of n.
3. There is no reason to try a guess where g is less than 0, since the rth root of a number is going to turn out to be positive in any case, despite the negative of that value being an equally valid answer. Guessing g where it is greater than n is only a valid guess when r is less than 1.
4. lowEnough = 1, tooHigh = n. I don't really know what this should be because there's no given value of n or r to work with here. Surely these values are low enough and too high, respectively.
5. I would start at a number halfway between 1 and 47226, then decide on my next guess after that depending on if the first guess was too high or too low (interval halving).
6.
```
private static int root(int n, int r) {
	double root = n;

	while (power(root, r) != n) {
		if (power(root, r) > n) {
			root = root / 2.0;
		} else {
			root += root / 2.0;
		}
	}

	return root;
}
```