

## Math 5b, homework 6.



1. A three-digit decimal number ends with the digit 3. If this digit is moved two places to the left, so that the number now starts with it, the new number will be one more than three times the original number. Find the original number.
2. A truck can cover distance between two cities in 10 hours. A fast car, which goes 10 miles per hour faster than the truck, can cover the same distance in 8 hours. What is the distance?
3. Peter spent 15% of his money and 1.5 dollars on a doughnut and  $\frac{3}{5}$  of his money and 30 cents on ice-cream. How much money did he have?
4. Evaluate (try to do it by the easiest possible way):

$$\frac{7777777 \cdot 7777777}{1 + 2 + 3 + 4 + 5 + 6 + 7 + 6 + 5 + 4 + 3 + 2 + 1} - \frac{5555555 \cdot 5555555}{1 + 2 + 3 + 4 + 5 + 4 + 3 + 2 + 1};$$

5. Cities A, B, and C, together with the straight roads connecting them, form a triangle. It is known that the direct route from A to B is 200 km shorter than the detour through C, and the direct route from A to C is 300 km shorter than the detour through B. Find the distance between cities B and C.
6. Both sides of the rectangle are increased by 10%. By what percent did its area increase?
7. The sum of two numbers is 51. What are these numbers if 30% of one number equals 60% of the other number?
8. What would be the last digit of the value of the expression:  
$$94^6 + 76^6 + 51^6$$