Math 5b, homework 23

1. Remove the parentheses:
   Example: $a + (-b) = a - b$

   a. $a + (-b)$;　　　　　b. $a - (-b)$;　　　　　c. $-c + (-a)$;

   d. $-x - (-y)$;　　　　e. $a - (-b) + (-c)$;　　f. $-x + (-y) + (-z) - d$;

2. Simplify the expression:
   Example: $2x \cdot 3y = 6xy$

   a. $2a \cdot 0.5b$;　　b. $10a \cdot \dfrac{1}{2}b$;　　c. $m \cdot 0.1n \cdot 10$;　　d. $-6z \cdot (2x) \cdot y$

   e. $6a(ab)^2 b^3$;　　f. $(xy)^2 \cdot (xy)^3$;　　g. $-c \cdot (cd)^2$;　　h. $-z \cdot (-x)^2 \cdot (-xz)$

3. It is known that the number kkk is odd. Will the value of the expressions be odd or even?

   a. $k + k + k + k + k$;　　b. $k + k + k + k + 10$;　　c. $(k + k)(k + k + k)$;

   It is known that the number a is even and number b is odd. Will the value of the expressions be odd or even?

   　　　　a. $a + a + a + b + b$;　　　b. $a + a + b + b + b$;

4. It is known that 2% of the natural number A is greater than 3% of the natural number B. Is it true that 5% of A is greater than 7% of B?

5. Find the length of the segment with endpoints at points M(m) and N(n) on the coordinate line, if:
   (point M has coordinate m, and point N has coordinate n)

   a. $m = +12.9, n = +32.9$;
   b. $m = +1.9, n = -2.1$;
   c. $m = -5.11, n = -8.83$;
   d. $m = -14.44, n = +62.9$.

6. Evaluate:

   a. $(7^{13} - 7^{12}):7^{11} - 27^5:27^4$;　　　　b. $(3^8 - 3^7 - 3^6):3^5 - 15^2$;

   c. $24^7:24^6 - (5^{10} - 5^9):5^8$;　　　　d. $(8^{11} - 8^9):8^9 - 60^{12}:60^{11}$

   e. $5^{-1} - 3 \cdot 2^{-3}$;　　　　f. $\dfrac{3^{-9} \cdot 9^{-4}}{27^{-6}}$