

Algebra and Geometry 1. Homework 23.



1. Write 4 numbers as example of elements of the following sets:

Example: Numbers 1, 2, 3, 4 belong to the set of natural numbers.

- a. Natural numbers;
- b. Negative numbers;
- c. Rational numbers;
- d. Irrational numbers;
- e. Positive numbers;
- f. Composite numbers.

2. Prove

$$\frac{1}{(a-b)(a-c)} + \frac{1}{(b-c)(b-a)} + \frac{1}{(c-a)(c-b)} = 0$$

Hint: add first two fractions, then add the third one, remember, that

$$(a-b) = -(b-a)$$

3. Solve the following quadratic equations, show your work:

a. $x^2 - 6x + 8 = 0$

b. $x^2 - x - 2 = 0$

c. $x^2 + 4x + 15 = 0$

d. $5x^2 + 8x - 9 = 0$

e. $3x^2 - 5x - 2 = 0$

b. $x^2 + 5x + 6 = 0$