

MATH 369 Linear Algebra

Assignment # 1

Problem # 1

A father and his two sons are together 100 years old. The father is twice as old as his older son and 30 years older than his younger son. How old is each person?

Problem # 2

Given are two points A and B . The equation of the line determined by A and B is to be computed.

- a) $A(3, 5)$, $B(-2, 7)$.
- b) $A(6, -3)$, $B(-6, 6)$.

Problem # 3

Determine a , b and c such that the parabola $y = ax^2 + bx + c$ passes through the points A , B and C .

- a) $A(2, 1)$, $B(-3, 1)$, $C(1, 0)$.
- b) $A(2, -5)$, $B(3, -10)$, $C(4, -19)$.

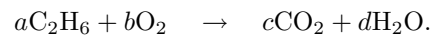
Problem # 4

Let A , B , C be sets. Prove that

- a) $A \setminus (B \setminus C) = (A \setminus B) \cup (A \cap C)$
- b) $(A \setminus B) \cup (B \setminus A) = (A \cup B) \setminus (A \cap B)$

Problem # 5

Find the integer coefficients a , b , c , d so that the following Chemical reaction formula makes sense:

**Problem # 6**

Sec 1.1 (pg 11): 6bdf, 10

Problem # 7

Sec 1.2 (pg 25): 2cde, 5dj, 6d, 10