Problem 1. i) The sum of two numbers is 50 and their difference is 22. Find the numbers.

ii) One number is three times the other number. The difference between the two numbers is 12. Find the two numbers.

iii) The difference between the two numbers is 7. Two times the smaller number added to the larger number gives 22. Find the two numbers.

iv) Ten years ago, mother was 12 times as old as her daughter and ten years, hence she will be twice as old as her daughter will be. Find the present ages.

v) Two hundred eighty-two people attended a recent performance of Cinderella. Adult tickets sold for \$5 and children's tickets sold for \$3 each. Find the number of adults and the number of children that attended the play if the total revenue was \$1046.

vi) The sum of two numbers is 14 and their difference is 2, find the numbers.

vii) In a two digit number. The units digit is thrice the tens digit. If 36 is added to the number, the digits interchange their place. Find the number.

viii) If twice the age of son is added to age of father, the sum is 56. But if twice the age of the father is added to the age of son, the sum is 82. Find the ages of father and son.

Problem 2. Solve,

i) $(k+1)(k-5)=0$

ii) $(4k+5)(k+1)=0$

iii) $x^2-11+19=-5$

iv) $n^2+8n=-15$

v) $5r^2-44r+120=-30+11r$

vi) $35k^2-22k+7=4$

vii) $10b^2=27b-18$

viii) $(x-10)^2-48=0$

ix) $x^2+14x+45=0$

x) $4x^2-100=0$

xi) $6x^2-48x-54=0$

xii) $9x^2+7x-4=0$

xiii) $3x^2+9x-6=0$

xiv) $4(x+3)^2-3=17$

xv) $(2x-5)^2-180=0$

xvi) $(4x-1)(2x-3)=-2$

xvii) $y^2+(y+1)^2=41$

Problem 3. i) If 2 is one of the solutions of the equation $x^2 - 8x + k = 0$, find k and the other solution.

ii) if -3 is one of the solutions of the equation $x^2 - kx + 3 = 0$, find k and the other solution.

iii) The width of a rectangle is 5 feeet less than half of its length. Find the dimensions of the rectangle if its area is 48 ft^2.

iv) The height of a triangle is 5 cm more than double its base. Find the base if the area of the triangle is 450 cm^2.

v) Find the perimeter of a rectangle whose area is 80 in^2 and its width his 11 inches less than its length.

vi) The product of two positive consecutive odd integers is 2499.

In addition

In addition to the above the student is responsible for completing All problems in section 3.4.