

MTH 28.5 LECTURE NOTES (Ojakian)

Topic 22: Solving Polynomial Equations

OUTLINE

References: 6.5

1. Doing the same thing to both sides of an equation?
 2. Polynomial equations
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1. Polynomial Equations: Solve by factoring

- (a) Get everything to one side (so the other side is zero)
- (b) Factor
- (c) Set each factor to 0

PROBLEM 1. *Solve the following*

- $(2x + 6)(x - 7) = 0$
- $x(x - 1) = 6$
- $x^2 - 3x = 10$

2. Applications

Details for some problems below are worked out on pages 74 to 76 from Iyer's textbook.

PROBLEM 2. *The difference of two numbers is 11, while their product is -30 . Find a pair of such numbers. How many pairs can you find that work? (Find all of them).*

PROBLEM 3. *The sum of the squares of two consecutive even integers is 340. Find all pairs of such numbers.*

PROBLEM 4. *The height of a triangle is 3 inches more than its base. Find the height and base, if the area of the triangle is 44 square inches.*

PROBLEM 5. *The length of a rectangle is twice its width. Find the length and width if the area of the rectangle is 128 square centimeters.*