Factoring Polynomials Part 2

June-25-18 9:28 AM

PRE-CALCULUS 11
QUADRATIC EQUATIONS
FACTORING POLYNOMIALS PART 2

A. Factoring Polynomial

Factor the following.

To Solve

a) Replace the expression with a simple variable

b) Factor the polynomial

c) Replace the simple variable with the expression and solve.

1) $(x-5)^2+3(x-5)-18$

$m = (x-5)$

$am^2 + bm - c$

$(m+6)(m-3)$

$((x-5)+6)((x-5)-3)$

$(x-5+6)(x-5-3)$

$\boxed{(x+1)(x-8)}$

2) $32(x+2)^2-18(2y-3)^2$

$m = (x+2) \quad n = (2y-3)$

$32m^2 - 18n^2$

$2(16m^2 - 9n^2)$

$2(4m+3n)(4m-3n)$

$2(4(x+2)+3(2y-3))(4(x+2)-3(2y-3))$

$2(4x+8+6y-9)(4x+8-6y+9)$

$\boxed{2(4x+6y-1)(4x-6y+17)}$

3) $4(x+3)^2-7(x+3)+3$

$m = (x+3)$

$4m^2 - 7m + 3$

$(m-\frac{4}{4})(m-3)$

$(m-1)(4m-3)$

$((x+3)-1)(4(x+3)-3)$

$(x+3-1)(4x+12-3)$

$\boxed{(x+2)(4x+9)}$

Take out the GCF first

4) $x^2 + 1.4x - 1.2$

$0.1(10x^2 + 14x - 12)$

$2(5x^2 + 7x - 6)$

$0.2(5x^2 + 7x - 6)$

$(x + \frac{10}{5})(x - \frac{3}{5})$

$0.2(x + 2)(5x - 3)$

5) $x^2 + \frac{11}{2}x + 7$

$\frac{1}{2}(2x^2 + 11x + 14)$

$(2x^2 + 7x)(+4x + 14)$

$x(2x + 7) + 2(2x + 7)$

$\frac{1}{2}(x + 2)(2x + 7)$

6) $\frac{1}{3}x^2 - \frac{3}{4}y^2$

$\frac{1}{12}(4x^2 - 9y^2)$

$\frac{1}{12}(2x + 3y)(2x - 3y)$

Assignment: Pg. 178 #9, 10, 11, 12, 13, 15