

Section 5.3

Exercises

Multiply. Write your answer with the terms in descending order, from highest to lowest degree.

- $(x-1)(x+3)$
- $(x+6)(x+5)$
- $(x-4)(x-7)$
- $(x+5)(x-2)$
- $(x-6)(x+6)$
- $(x+8)(x-8)$
- $(x+4)(x+4)$
- $(x-9)(x-9)$
- $(4x+3)(x-5)$
- $(2x-7)(x+4)$
- $(5x+8)(2x-6)$
- $(4x-1)(3x+11)$
- $(3x^2-2)(5x^2-9)$
- $(5x^2+1)(x^2+6)$

Use factoring by grouping to factor each of the following polynomials.

- $xy+2x+5y+10$
- $xy-3y+4x-12$
- $xy+x-7y-7$
- $xy-6x+5y-30$
- $x^3+2x^2-25x-50$
- $x^3-3x^2-4x+12$
- $9x^3+18x^2-4x-8$

Factor each of the following polynomials. If the polynomial cannot be factored, then write the original polynomial as your answer.

- x^2-4x+3
- x^2-x-6
- $x^2-2x-15$
- $x^2+9x+20$
- $x^2+12x+20$
- $x^2-13x-48$
- $x^2-6x-16$
- x^2-6x+4

- $x^2-13x+36$
- x^2+x-72
- $x^2-3x-18$
- $x^2+3x-28$
- x^2+2x+1
- $x^2-10x+25$
- $x^2-20x+100$
- $x^2+26x+169$
- x^2-100
- x^2-81
- x^2+9
- x^2-25
- $4x^2-9$
- $16x^2-81$
- $25x^2-144$
- $36x^2+1$
- $49x^2-64$
- $2x^2-5x-3$
- $12x^2+5x-3$
- $7x^2+43x+6$
- $3x^2-17x-28$
- $15x^2+26x+8$
- $12x^2+20x-25$
- $4x^2-17x+15$
- $10x^2+18x-4$
- $6x^2+31x+35$
- $6x^2-5x+1$

Factor each of the following. Remember to first factor out the greatest common factor.

- x^2+7x
- $10x^2+20x$
- $2x^2-18x$
- $10x^3-10x$
- $2x^2+14x+24$
- x^3-7x^2+6x
- x^4-16x^2
- $6x^2-6x-72$
- x^3+12x^2+21x
- $5x^2-20x+20$
- $3x^2+12x-63$