

Xavier University of Louisiana

Study Guide for the Xavier Mathematics Placement Test

3. Operations on and factoring of polynomials

Practice Problems

Perform the indicated operations and simplify the result:

1. $(3x^2 + 5x - 5) - (1 - x - x^2)$
2. $(6x^3 - x^2 + 4) + (x^3 + 2x - 5)$
3. $5u^3v(2uv^2 - 3u^2v)$
4. $(7x - 3)(x + 5)$
5. $(5t - 2)(5t + 2)$
6. $2x(3x + 1)(x - 5)$
7. $(5x^2 - x + 5) - (3x^2 - 6x - 7)$
8. $(2x^2 - 9x - 1) + (7x^2 - 2x + 7)$
9. $3x^2y^4(6y^2 - 5x^2)$
10. $(1 - 3x)(5x - 7)$
11. $(3x - 5)(3x + 5)$
12. $5t^2(5t - 6)(2t + 1)$

Factor each expression completely:

1. $8u^3v^4 - 12u^2v^6$
2. $4 - t^2$
3. $8u^3v^2 - 18ut^2$
4. $x^2 + x - 2$
5. $3x^2 + 6x - 24$
6. $6x^3y^2 - 10x^2y^3$
7. $x^2 - 25$
8. $9x^2 - 12x + 4$
9. $4x^4y^2 - 9x^2t^2$
10. $x^2 - x - 2$
11. $2x^2 + 2x - 24$