

Chapter 6
Form E

Choose the correct answer to each problem.

For problems 1 – 13, factor completely or state that the polynomial is prime.

1. $x^2 + 24x + 144$
 - a. $(x - 12)^2$
 - b. $(x - 12)(x + 12)$
 - c. $(x + 12)^2$
 - d. Prime
2. $x^2 - 3x - 28$
 - a. $(x - 14)(x + 2)$
 - b. $(x + 4)(x - 7)$
 - c. $(x - 4)(x + 7)$
 - d. Prime
3. $8x^3 - 27$
 - a. $(2x - 3)^3$
 - b. $(2x + 3)(2x^2 - 9)$
 - c. $(2x - 3)(4x^2 + 6x + 9)$
 - d. $(2x - 3)(4x^2 - 6x + 9)$
4. $10x^2 - 2x - 12$
 - a. $(5x - 6)(x + 1)$
 - b. $(2x + 3)(5x + 4)$
 - c. $(2x - 3)(5x + 4)$
 - d. Prime
5. $36x^2 + 12xy + y^2$
 - a. $(6x - y)^2$
 - b. $(6x + y)^2$
 - c. $(36x + y)(x + y)$
 - d. $(18x + y)(2x + y)$
6. $x^2 - 9$
 - a. $(x + 3)^2$
 - b. $(x - 3)^2$
 - c. $(x + 3)(x - 3)$
 - d. Prime
7. $2x^3y - 30x^2y + 108xy$
 - a. $2xy(x - 9)(x - 6)$
 - b. $2x(x - 9y)(x - 6y)$
 - c. $2xy(x + 9)(x + 6)$
 - d. $2(x^2 - 9y)(x - 6y)$
8. $-8x^2y^2 + 24xy^3 - 18y^4$
 - a. $-2y^2(2x - 3y)^2$
 - b. $-2y^2(2x - 3y)(2x + 3y)$
 - c. $-2xy(4x^2 - 12y + 9y^2)$
 - d. $-2xy^2(4x - 12y + 9y^2)$
9. $y^3 + 4y^2 - 25y - 100$
 - a. $y^2(y + 4) - 5(5y + 20)$
 - b. $(y + 5)^2(y + 4)$
 - c. $(y + 5)(y - 5)(y + 4)$
 - d. $(y + 4)^2(y - 5)$
10. $64x^2y^2 - 16xy$
 - a. $(8xy - 4x)(8xy + 4y)$
 - b. $16xy(4xy - 1)$
 - c. $16xy(-4xy)$
 - d. $(8xy - 4x)^2$

