

Unit 2 Final Review – Factoring Polynomials

1. Factor each polynomial.

a) $30x + 5x^2$

d) $56mn^2 - 16m^2n$

b) $-45a + 9a^2$

e) $5a^2b - 25ab + 15ab^2$

c) $-42xy^2 - 35x^2y$

f) $4x^3y + 24x^2y - 6x^2y^2$

2. If the trinomial $3x^2 - mx + 2$ can be factored, what values of m are possible? (circle the correct answer)

A $-5, 5, -7, 7$

B $5, 7$

C $-5, 5$

D $-7, 7$

E $-5, -7$

3. Factor fully.

a) $x^2 - x - 12$

d) $7w^2 + 3w - 10$

g) $4r^2 - 4r + 1$

j) $x^2 - 225$

m) $50c^2 - 18$

p) $(3y - 2)^2 - 2(3y - 2) - 35$

s) $a^4 - 19a^2 + 60$

b) $x^2 - 9x + 18$

e) $5x^2 - 25x - 30$

h) $x^2 + 10x + 25$

k) $81m^2 - 36$

n) $(x - 1)^2 - 4(x - 1) + 4$

q) $(2x - 3)^2 - (3x + 2)^2$

t) $x^4 - 3x^2 - 4$

c) $c^2 - 4c - 21$

f) $6m^2 - 13m - 15$

i) $9m^2 + 30m + 25$

l) $25m^2 - 16$

o) $(x - 5)^2 - 5(x - 5) - 50$

r) $(3a + 2b)^2 - 25$

u) $c^4 + 11c^2 - 60$

4. Which of the following is a factor of $2x^2 - 12x - 54$, when completely factored? (circle the correct answer)

A $x - 9$

B $x - 3$

C $x - 27$

D $x + 2$

E $x + 9$

5. Which of the following is a factor of $(3x - 4y)^2 - 4y^2$ when completely factored? (circle the correct answer)

A $3x + 6y$

B $2x - 3y$

C $x - 2y$

D $3x + 2y$

E $3x - 6$