

Section 5.6 Focus Exercises

1. Factor out the greatest common monomial factor from each polynomial.

a) $8x^2 - 12xy^2$

b) $5p^5 - 15p^4 + 20p^2$

c) $-14m^3 + 7m$

d) $2x^3y - 4x^2y^2 - 8xy^3 + 2xy$

2. Factor each polynomial using Factor By Grouping.

a) $6x^3 - 15x^2 + 10x - 25$

b) $8a^2 - 12ab + 2a - 3b$

c) $4y^3 - 4y^2 - 3y + 3$

d) $2a^3 - 5a^2b + 2ab - 5b^2$

3. Factor each trinomial.

a) $3x^2 + 8x + 4$

b) $2x^2 - 7x + 6$

c) $3x^2 + 14x - 5$

d) $3x^2 - 7x - 6$

4. Factor each trinomial.

a) $x^2 + 6x + 5$

b) $x^2 - x - 6$

c) $x^2 + 3x - 4$

d) $x^2 - 2x - 3$

e) $x^2 + 5x - 6$

f) $x^2 - 2x - 1$

g) $x^2 + 2x - 8$

h) $x^2 - 3x + 2$

i) $x^2 + 11x + 10$

j) $x^2 - 6x + 9$

5. Factor. If the binomial isn't factorable, write *prime*. You may do these in one step.

a) $x^2 - 36$

b) $16w^2 - 1$

c) $25y^2 + 81$

d) $9a^2 + 4b^2$

e) $x^4 - 25$

f) $9x^6 - 4y^2$

6. Factor. If the polynomial isn't factorable, write *prime*.

a) $x^2 + 8x - 20$

b) $6p^2 + 9p$

c) $x^2 + 12x + 24$

d) $4a^2 + 49a$

e) $x^2 + 9y^2$

f) $x^3 + 25x$

g) $x^2 - 4x + 4$

h) $m^2 + 8m - 16$

7. Factor each of these using the guidelines. Each can be factored more than once.

a) $x^3 - 7x^2 - 8x$

b) $5x^2 - 15x - 20$

c) $12x^3 - 27x$

d) $y^4 - 81$

e) $-6x^3 - 12x^2 + 18x$

f) $-6x^2 + 4x + 10$