

Section 5.2 Focus Exercises

1. Identify the GCF of the given terms by identifying it first for the numbers and then for the variables.

a) $12y^2$ and $18y$

b) $21m^3$ and $14m^2$

c) $36a^3b$ and $27a^2b$

d) $15x^2y^4$ and $8x^3y^2$

e) $9x^5$, $21x^4$ and $15x^2$

f) $35p^6$, $20p^4$ and $5p^2$

2. Factor out a common monomial from each of these polynomials. (Check your answer by distributing through to make sure you get the original polynomial.) Also, write out what the factors are.

a) $6x + 9$

b) $5y^2 - 15y$

The factors are _____ and _____

c) $16w^3 - 8w^2$

d) $15a^3 - 21ab$

e) $30w^6 + 20w^3$

f) $14x^2y - 7xy^2$

g) $6x^3 - 15x^2 + 9x$

h) $8y^6 + 8y^2 - 8y$

i) $9x^4y^2 - 12x^3y^3 - 16x^2y$

j) $44b^4c^4 - 33b^3c^2 - 22bc^2$

3. If necessary, write each in descending order, then factor. (In each, if the leading coefficient is negative, be sure to factor out -1 along with any other monomial factors.)

a) $15x^3 - 6x^2$

b) $-4y^4 - 20y$

c) $-14c^3 + 49c^6$

d) $9 - 18x^2$

e) $-12 + 3y^4$

f) $15x - 10x^4$

g) $-4x^3 + 6x^2 - 2x$

h) $10a^2 - 20a - 30a^3$

i) $-6 + 18x^2 - 24x$

j) $-5y^4 - 10y^2 + 20y$

k) $9x - 12x^3 - 8$

l) $32b^2 + 40b^3 - 16b^4$