

Section 5.3 Focus Exercises

1. Use *factor by grouping* to factor each four-term polynomial. (Use the techniques learned in this section to make factoring the polynomial easiest for you.) State the factors when complete.

a) $2x^3 + 7x^2 + 8x + 28$

b) $m^3 + 6m^2 - 2m - 12$

c) $3x^2 - 4xy - 15x + 20y$

d) $6x^3 + 3x^2 - 2x - 1$

e) $6r - 5pr + 6p - 5p^2$

f) $15y - 8y^2 - 12 + 10y^3$

g) $6x - 8 - 3x^3 + 4x^2$

h) $20x^2 - 3x - 12 + 5x^3$

2. Find the solution for the given Key number and Sum number. If there is no solution, state so.

a) Key # = 20, Sum # = 12:

b) Key # = 25, Sum # = - 10:

c) Key # = 12, Sum # = 13:

d) Key # = 40, Sum # = - 13:

e) Key # = 42, Sum # = 1:

f) Key # = 28, Sum # = - 16:

g) Key # = - 60, Sum # = 4:

h) Key # = - 42, Sum # = - 1:

i) Key # = - 9, Sum # = 0:

j) Key # = - 20, Sum # = 9:

k) Key # = - 24, Sum # = - 5:

l) Key # = - 15, Sum # = - 14:

m) Key # = - 45, Sum # = 12:

n) Key # = 30, Sum # = - 17: