Name: _____   Date: _____

Learning Goal 1.2	Factor trinomials of the form $ax^2 + bx + c$.

Assignment - Answers

1. Factor. What patterns do you see in the trinomials and their factors?

a.
$2n^2 + 13n + 6$
$= (n + 6)(2n + 1)$
and
$2n^2 - 13n + 6$
$= (n - 6)(2n - 1)$

b.
$2n^2 + 11n - 6$
$= (n + 6)(2n - 1)$
and
$2n^2 - 11n - 6$
$= (n - 6)(2n + 1)$

c.
$2n^2 + 7n + 6$
$= (2n + 3)(n + 2)$
and
$2n^2 - 7n + 6$
$= (2n - 3)(n - 2)$

2. Factor.

a. $2y^2 + 5y + 2$
$= (y + 2)(2y + 1)$

b. $2a^2 + 11a + 12$
$= (a + 4)(2a + 3)$

c. $2k^2 + 13k + 15$
$= (k + 5)(2k + 3)$

d. $2m^2 - 11m + 12$
$= (2m - 3)(m - 4)$

e. $2k^2 - 11k + 15$
$= (2k - 5)(k - 3)$

f. $2m^2 + 15m + 7$
$= (m + 7)(2m + 1)$

g. $2g^2 + 15g + 18$
$= (g + 6)(2g + 3)$

h. $2n^2 + 9n - 18$
$= (n + 6)(2n - 3)$

i. $5a^2 - 7a - 6$
$= (5a + 3)(a - 2)$

j. $3y^2 - 13y - 10$
$= (3y + 2)(y - 5)$

k. $5s^2 + 19s - 4$
$= (s + 4)(5s - 1)$

l. $14c^2 - 19c - 3$
$= (7c + 1)(2c - 3)$

m. $8a^2 + 18a - 5$
$= (2a + 5)(4a - 1)$

n. $8r^2 - 14r + 3$
$= (4r - 1)(2r - 3)$

o. $6d^2 + d - 5$
$= (d + 1)(6d - 5)$

p. $15p^2 - 7p - 2$
$= (5p + 1)(3p - 2)$

q. $20r^2 + 70r + 60$
$= 10(r + 2)(2r + 3)$

r. $15a^2 - 65a + 20$
$= 5(3a - 1)(a - 4)$

s. $18h^2 + 15h - 18$
$= 3(2h + 3)(3h - 2)$

t. $24u^2 - 72u + 54$
$= 6(2u - 3)^2$

u. $12m^2 - 52m - 40$
$= 4(3m + 2)(m - 5)$

v. $24g^2 - 2g - 70$
$= 2(3g + 5)(4g - 7)$

w. $14y^2 - 13y + 3$
$= (7y - 3)(2y - 1)$

x. $10p^2 - 17p - 6$
$= (10p + 3)(p - 2)$

y. $10r^2 - 33r - 7$
$= (5r + 1)(2r - 7)$

z. $15g^2 - g - 2$
$= (3g + 1)(5g - 2)$

aa. $4x^2 + 4x - 15$
$= (2x + 5)(2x - 3)$

bb. $9d^2 - 24d + 16$
$= (3d - 4)^2$

cc. $9t^2 + 12t + 4$
$= (3t + 2)^2$

dd. $40y^2 + y - 6$
$= (5y + 2)(8y - 3)$

ee. $24c^2 + 26c - 15$
$= (2c + 3)(12c - 5)$

ff. $8x^2 + 14x - 15$
$= (2x + 5)(4x - 3)$