Page 29 1cf, 2cd, Pg 31 8cd, 9adgk, 10d, Pg 33 11fh, 12cd, 13bdf, 15c
p. 34 #19.

Pg 29
#1c) $7m^2 - mn - 8n^2 + (6m^2 + 9mn + 11n^2)$
$= 13m^2 + 8mn + 3n^2$

d) $(-4y^2 + 2xy - 6x^2) + (5y^2 - 6xy + 7y^2)$ typo.
$= 8y^2 - 4xy - 6x^2$

f) $5x + 3y - 8xy + (6xy + 2x - 5y)$
$= 7x - 2xy - 2y$

2c) $(9x^2 - 4xy - y^2) - (6y^2 + 3xy + 10x^2)$
$= 9x^2 - 4xy - y^2 - 6y^2 - 3xy - 10x^2$
$= -x^2 - 7xy - 7y^2$

d) $(-r^2 + 4rs + s^2) - (6r^2 - rs + 11s^2)$
$= -r^2 + 4rs + s^2 - 6r^2 + rs - 11s^2$
$= -7r^2 + 5rs - 10s^2$

Pg. 31 8c) $4y(2y - 3)$
$= 8y^2 - 12y$

8d) $-3(3m + 2n)$
$= -9m - 6n$

9a) $2(x - 4) - 3(x - 5)$
$= 2x - 8 - 3x + 15$
$= -x + 7$

d) $4(a - 2b - c) - 6(4a + 2b - 6c)$
$= 4a - 8b - 4c - 24a - 12b + 36c$
$= -20a - 20b + 32c$

g) $2(1 - 3s + 2s^2) - (1 - 4s + 5s^2)$
$= 2 - 6s + 4s^2 - 1 + 4s - 5s^2$
$= 1 - 2s - s^2$

Pg 31 9k, 10d*, Pg 33 11fh, 12cd, 13bdf, 15cl, pg. 34 #19

9k) $-4x(2x-1) - x(1-2x) + 2x(x+4)$
$= -8x^2 + 4x - x + 2x^2 + 2x^2 + 8x$
$= -4x^2 + 11x$

10d) $4[1-2(3y-1)] + 2[4(y-6)-1]$ (*) missing bracket. (typo in textbook).
$= 4[1-6y+2] + 2[4y-24-1]$
$= 4(3-6y) + 2(4y-25)$
$= 12 - 24y + 8y - 50$
$= -16y - 38$

10e) $2x[x+2(x-3)] - x(3x-4)$
$= 2x[x+2x-6] - 3x^2 + 4x$
$= 2x^2 + 4x^2 - 12x - 3x^2 + 4x$
$= 3x^2 - 8x$

10f) $3y[1-y(y-3)] - [2-y(y-4)]$
$= 3y[1-y^2+3y] - [2-y^2+4y]$
$= 3y - 3y^3 + 9y^2 - 2 + y^2 - 4y$
$= -3y^3 + 10y^2 - y - 2$

11f) $(5+2m)(3-4m)$
$\cancel{= 15}$
$= 15 - 20m + 6m - 8m^2$
$= 15 - 14m - 8m^2$
or
$= -8m^2 - 14m + 15$

h) $3(2x-5)^2$
$= 3(4x^2 - 20x + 25)$
$= 12x^2 - 60x + 75$

OR
$3(2x-5)(2x-5)$
$= 3(4x^2 - 10x - 10x + 25)$
$= 3(4x^2 - 20x + 25)$
$= 12x^2 - 60x + 75$

Square the first
$(2x)^2$
$= 4x^2$
Square the last
$(-5)^2$
$= 25$
Twice the Product
$2(2x)(-5)$
$= -20x$
Have a Blast!
(or "What a Blast!")

12c) $(4x-5y)(3x-10y)$

$= 12x^2 - 40xy - 15xy + 50y^2$

$= 12x^2 - 55xy + 50y^2$

d) $3(6w-11x)(w+3x)$

$= 3(6w^2 + 18wx - 11wx - 33x^2)$

$= 3(6w^2 + 7wx - 33x^2)$

$= 18w^2 + 21wx - 99x^2$

13 b) $(2t-1)(t+4) - (t+6)(3t+2)$

$= 2t^2 + 8t - t - 4 - (3t^2 + 2t + 18t + 12)$

$= 2t^2 + 7t - 4 - 3t^2 - 20t - 12$

$= -t^2 - 13t - 16$

d) $2(2y-5)(y-4) - (5y-3)(y+4)$

$= 2(2y^2 - 8y - 5y + 20) - (5y^2 + 20y - 3y - 12)$

$= 2(2y^2 - 13y + 20) - (5y^2 + 17y - 12)$

$= 4y^2 - 26y + 40 - 5y^2 - 17y + 12$

$= -y^2 - 43y + 52$

f) $3(2x+3)^2 - (x-5)^2 - (3x-4)(x-5)$

Don't forget to "Have a Blast!" ☺

$3(4x^2 + 2(2x)(3) + 9) - (x^2 + 2(x)(-5) + (-5)^2) - (3x^2 - 15x - 4x + 20)$

don't usually show this step!

$= 3(4x^2 + 12x + 9) - (x^2 - 10x + 25) - (3x^2 - 19x + 20)$

$= 12x^2 + 36x + 27 - x^2 + 10x - 25 - 3x^2 + 19x - 20$

$= 8x^2 + 65x - 18$

15c) $(3m+2)(2m^2 + 3m - 4)$

$= 6m^3 + 9m^2 - 12m + 4m^2 + 6m - 8$

$= 6m^3 + 13m^2 - 6m - 8$

Pg 33 #15 l, Pg 34 #19

15 l) $(2x-1)(x^3-2x^2+5x-3)$

$= 2x^4 - 4x^3 + 10x^2 - 6x - x^3 + 2x^2 - 5x + 3$

$= 2x^4 - 5x^3 + 12x^2 - 11x + 3$

Pg 34 #19

$\text{Area} = \text{Area}_{\text{larger rectangle}} - A_{\text{smaller Rectangle}}$

$= (y+1)(y+x-2) - (y-x)(y)$

$= y^2 + xy - 2y + y + x - 2 - (y^2 - xy)$

$= y^2 + xy - y + x - 2 - y^2 + xy$

$= 2xy - y + x - 2$