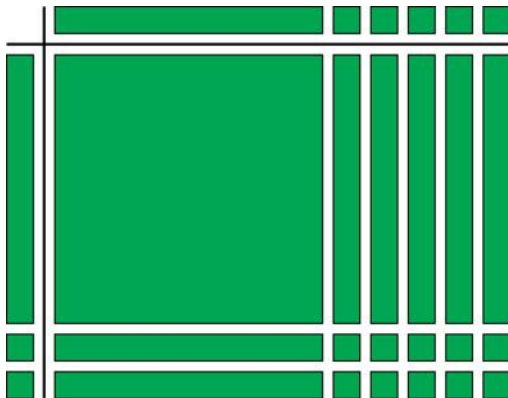
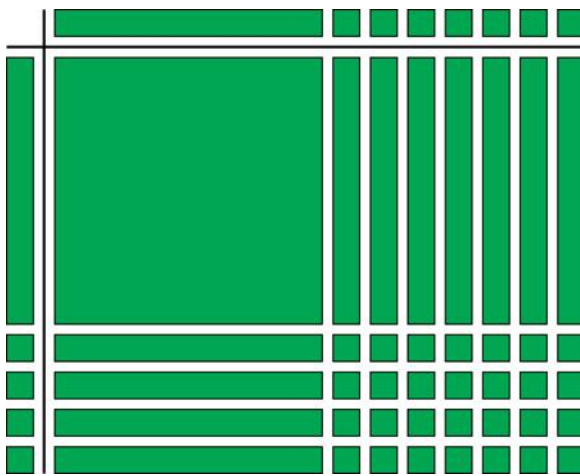


TT 9. *Foundations and Pre-calculus Mathematics 10* (Pearson), questions 5, 9, and 12 on pages 166 and 167. **Possible Solutions**

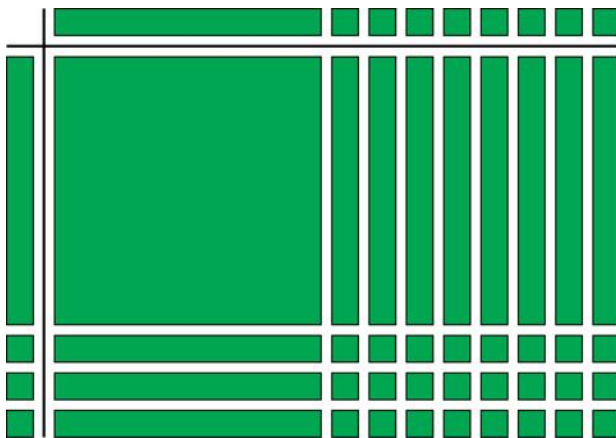
5. a) $(b+2)(b+5) = b^2 + 7b + 10$



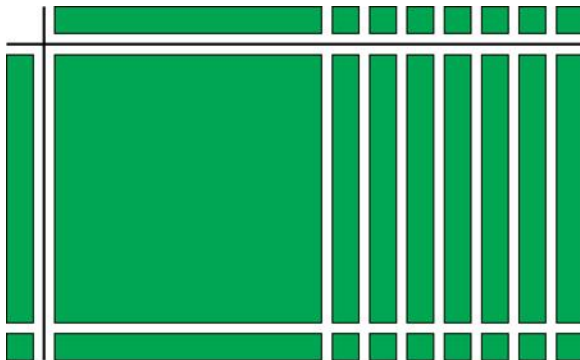
b) $(n+4)(n+7) = n^2 + 11n + 28$



c) $(h+8)(h+3) = h^2 + 11h + 24$



d) $(k+1)(k+6) = k^2 + 7k + 6$



9. a) $(m+5)(m+8) = m(m+8) + 5(m+8)$
 $= m^2 + 8m + 5m + 40$
 $= m^2 + 13m + 40$

	m	8
m	$(m)(m) = m^2$	$(m)(8) = 8m$
5	$(5)(m) = 5m$	$(5)(8) = 40$

b) $(y+9)(y+3) = y(y+3) + 9(y+3)$
 $= y^2 + 3y + 9y + 27$
 $= y^2 + 12y + 27$

	y	3
y	$(y)(y) = y^2$	$(y)(3) = 3y$
9	$(9)(y) = 9y$	$(9)(3) = 27$

c) $(w+2)(w+16) = w(w+16) + 2(w+16)$
 $= w^2 + 16w + 2w + 32$
 $= w^2 + 18w + 32$

	w	16
w	$(w)(w) = w^2$	$(w)(16) = 16w$
2	$(2)(w) = 2w$	$(2)(16) = 32$

d) $(k+13)(k+1) = k(k+1) + 13(k+1)$
 $= k^2 + k + 13k + 13$
 $= k^2 + 14k + 13$

	k	1
k	$(k)(k) = k^2$	$(k)(1) = 1k$
13	$(13)(k) = 13k$	$(13)(1) = 13$

12. a) $(g - 3)(g + 7) = g(g + 7) - 3(g + 7)$
 $= g^2 + 7g - 3g - 21$
 $= g^2 + 4g - 21$

	g	7
g	$(g)(g) = g^2$	$(g)(7) = 7g$
-3	$(-3)(g) = -3g$	$(-3)(7) = -21$

b) $(h + 2)(h - 7) = h(h - 7) + 2(h - 7)$
 $= h^2 - 7h + 2h - 14$
 $= h^2 - 5h - 14$

	h	-7
h	$(h)(h) = h^2$	$(h)(-7) = -7h$
2	$(2)(h) = 2h$	$(2)(-7) = -14$

c) $(11 - j)(2 - j) = 11(2 - j) - j(2 - j)$
 $= 22 - 11j - 2j + j^2$
 $= 22 - 13j + j^2$
 $= j^2 - 13j + 22$

	2	$-j$
11	$(11)(2) = 22$	$(11)(-j) = -11j$
$-j$	$(-j)(2) = -2j$	$(-j)(-j) = j^2$

d) $(k - 3)(k + 11) = k(k + 11) - 3(k + 11)$
 $= k^2 + 11k - 3k - 33$
 $= k^2 + 8k - 33$

	k	11
k	$(k)(k) = k^2$	$(k)(11) = 11k$
-3	$(-3)(k) = -3k$	$(-3)(11) = -33$

e) $(12 + h)(7 - h) = 12(7 - h) + h(7 - h)$
 $= 84 - 12h + 7h - h^2$
 $= 84 - 5h - h^2$
 $= -h^2 - 5h + 84$

	7	$-h$
12	$(12)(7) = 84$	$(12)(-h) = -12h$
h	$(h)(7) = 7h$	$(h)(-h) = -h^2$

f) $(m - 9)(m + 9) = m(m + 9) - 9(m + 9)$
 $= m^2 + 9m - 9m - 81$
 $= m^2 - 81$

	m	9
m	$(m)(m) = m^2$	$(m)(9) = 9m$
-9	$(-9)(m) = -9m$	$(-9)(9) = -81$

g) $(n - 14)(n - 4) = n(n - 4) - 14(n - 4)$
 $= n^2 - 4n - 14n + 56$
 $= n^2 - 18n + 56$

	n	-4
n	$(n)(n) = n^2$	$(n)(-4) = -4n$
-14	$(-14)(n) = -14n$	$(-14)(-4) = 56$

h) $(p + 6)(p - 17) = p(p - 17) + 6(p - 17)$
 $= p^2 - 17p + 6p - 102$
 $= p^2 - 11p - 102$

	p	-17
p	$(p)(p) = p^2$	$(p)(-17) = -17p$
6	$(6)(p) = 6p$	$(6)(-17) = -102$