**Section 3.3 Completing the Square**

Section 3.3   Page 192   Question 1

a) Select algebra tiles to model $x^2 + 6x + c$.
To complete the square, add nine unit tiles.
So, $c = 9$.
The equivalent binomial square is $(x + 3)^2$.
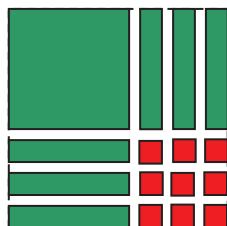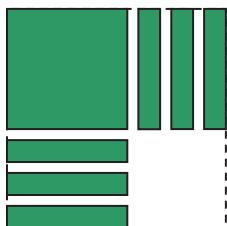
b) Select algebra tiles to model $x^2 - 4x + c$. To
complete the square, add four unit tiles. So, $c = 4$.
The equivalent binomial square is $(x - 2)^2$.
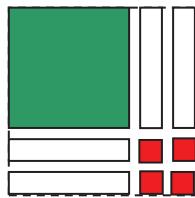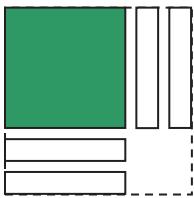
c) Select algebra tiles to model $x^2 + 14x + c$. To complete the square, add 49 unit tiles.
So, $c = 49$. The equivalent binomial square is $(x + 7)^2$.
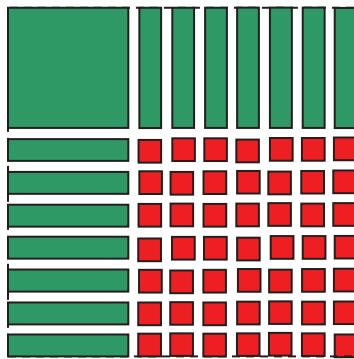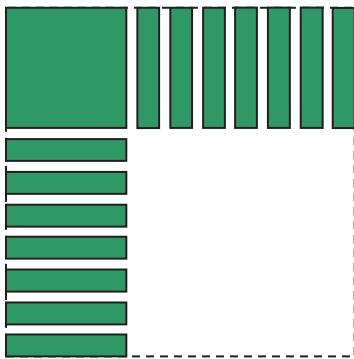
d) Select algebra tiles to model $x^2 - 2x + c$. To complete
the square, add one unit tile. So, $c = 1$.
The equivalent binomial square is $(x - 1)^2$.
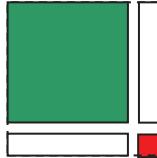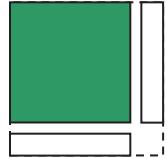
Section 3.3   Page 192   Question 2

a) Complete the square to write $y = x^2 + 8x$ in vertex form.
$y = x^2 + 8x$
$y = x^2 + 8x + 16 - 16$
$y = (x^2 + 8x + 16) - 16$
$y = (x + 4)^2 - 16$
The vertex of the function is $(-4, -16)$.