

Homework

1) The diagram represents the expression  $x^2 + 4x + 4$  with the constant term missing. Complete the square by filling in the bottom right corner with 1-tiles, and write the expression as a trinomial and in factored form.

$x^2 + 4x + 4$

$(x+2)^2$



#'s 2-7 Complete the square to form a perfect square trinomial. Then factor the trinomial.

2)  $m^2 + 10m + (\frac{b}{2})^2$   $b=10$   
 $m^2 + 10m + (\frac{10}{2})^2$   
 $m^2 + 10m + 25$   
 $(m+5)^2$

3)  $g^2 - 20g + (\frac{b}{2})^2$   $b=-20$   
 $g^2 - 20g + (\frac{-20}{2})^2$   
 $g^2 - 20g + 100$   
 $(g-10)^2$

4)  $y^2 + 2y + (\frac{b}{2})^2$   $b=2$   
 $y^2 + 2y + (\frac{2}{2})^2$   
 $y^2 + 2y + 1$   
 $(y+1)^2$

5)  $w^2 - 11w + (\frac{b}{2})^2$   $b=-11$   
 $w^2 - 11w + (\frac{-11}{2})^2$   
 $w^2 - 11w + \frac{121}{4}$   
 $(w - \frac{11}{2})^2$

6)  $x^2 + 4x + (\frac{b}{2})^2$   $b=4$   
 $x^2 + 4x + (\frac{4}{2})^2$   
 $x^2 + 4x + 4$   
 $(x+2)^2$

7)  $x^2 - 16x + (\frac{b}{2})^2$   $b=-16$   
 $x^2 - 16x + (\frac{-16}{2})^2$   
 $x^2 - 16x + 64$   
 $(x-8)^2$

#'s 8-9. Complete the square of the following trinomials.

8)  $x^2 + 7x + 24$   $b=7$   
 $x^2 + 7x + (\frac{b}{2})^2 + 24 - (\frac{b}{2})^2$   
 $x^2 + 7x + (\frac{7}{2})^2 + 24 - (\frac{7}{2})^2$   
 $x^2 + 7x + \frac{49}{4} + 24 - \frac{49}{4}$   
 $(x + \frac{7}{2})^2 + \frac{47}{4}$

9)  $x^2 - 12x - 3$   $b=-12$   
 $x^2 - 12x + (\frac{b}{2})^2 - 3 - (\frac{b}{2})^2$   
 $x^2 - 12x + (\frac{-12}{2})^2 - 3 - (\frac{-12}{2})^2$   
 $x^2 - 12x + 36 - 3 - 36$   
 $(x-6)^2 - 39$