Date: _____

$2wx + 10w + 7x + 35$

factor factor

$= 2w(x+5) + 7(x+5)$

$= (x+5)(2w+7)$ done!

4.1 Continued

1) Common Factoring with a Twist ☆

Remember that factors can be monomials, binomials, or polynomials.

ex/ Common factor $2(x+1) - 3x(x+1)$.

This idea allows us to common factor by grouping when we have four terms. To do this, common factor pairs of numbers!

ex/ Factor by grouping.

$3x^2 - 6x + 4x - 8$

2) Problem Solving

Use what you know to solve word problems!

ex/ The area of a rectangle is modelled by the expression $A = -4x^2 + 16x$. What dimensions will maximize the area of the rectangle?

ex/ The path of a ball after it is thrown is modelled by the relation $h = -5t^2 + 35t$.

a) When will the ball hit the ground?

b) When does the ball reach its maximum height?

c) What is the maximum height of the ball?