MPM2D POSSIBLE UNIT 3 PROBLEM SET v2 NAME: _____

marks

KNOWLEDGE/UNDERSTANDING

[3] 1. State an example of a **linear trinomial** using the variables x and y: _____

[1] 2.a) Using this basic outline, fill in any **binomials** in the brackets below using no more than 2 variables of your choice. Each bracket must have a different binomial.

$$4(\quad)(\quad)-2(\quad)^2$$

[6] b) Expand and simplify your expression.

[1] c) What is the degree of your final simplified polynomial expression from part b? _____

[1] d) What is the constant term, if any? _____

[1] e) How many terms are in the final simplified polynomial expression from part b? _____

APPLICATION

3. Factor fully.

[3,2,2] a) $2x^2-18$

b) $x^2+10x-24$

c) $64x^2-16x+1$

[2] d) $3x^2+19x-14$

[2.2] 3. Check your answer in #2c and #2d by expanding your factored form. Show all your steps.

[2] 4. a) Create a quadratic equation of the form: $ax^2 + bx + c = 0$ that has a negative discriminant.

b) What does this tell you about the roots?

THINKING

5. We have learned **three methods** to solve quadratic equations.

[1] a) Create your own quadratic equation that CAN be solved in **all three ways**. Note: not every quadratic equation is solvable by all three methods. Think carefully about what has to be true about it to make it a good choice.

[3,3,3] b) For the equation you created, solve it three times – once using each method.

[6] c) List one pro and one con (advantage and disadvantage) to <u>each</u> METHOD.

You may want to organize your work in this chart:

Equation:		
Solve by factoring:	Solve using square roots/inverse operations:	Solve using the quadratic formula:
One Pro and One Con for solving by factoring:	One Pro and One Con for solving by using $\pm\sqrt{\ }$:	One Pro and One Con for solving with the formula:

[5] d) Perform LS/RS checks to verify that your two solutions are correct.

Note: LS/RS check for each root:

[10] **<u>COMMUNICATION</u>** 10 marks will be awarded for proper presentation and mathematical form.