Name: _____   Date: _____

Practice: Common Factoring

1. Find the greatest common factor of each set of terms.
   a) 35, 75
   b) $21x$, 60
   c) 12, 8x, $16x^2$
   d) 36, 9x, $18x^2$

2. Using the greatest common factor, write the binomial in factored form.
   a) $4x + 20$
   b) $5x + 30x^2$
   c) $12x^2 - 48x$
   d) $21x^2 - 49x$

3. Factor each binomial completely.
   a) $-18x + 33$
   b) $20x - 50x^2$
   c) $-48x^2 - 63x$
   d) $-36x^2 - 72x$

4. Factor each polynomial completely.
   a) $4x^2 + 12x + 8$
   b) $3x^2 + 6x - 9$
   c) $5x^2 + 10x - 120$
   d) $3x^2 - 36x + 105$

5. The area of a tennis court is represented by $60x^2 + 75x$. What are the dimensions of the tennis court?

6. The area of a chalkboard is represented by $21x^2 + 6x$. What are the dimensions of chalkboard?

7. Determine the dimensions of each rectangle, given the area.
   a) $8x^2 - 12x$
   b) $26x^2 + 39x$
   c) $24x^2 + 6x$
   d) $44x^2 + 66x$

8. Determine the actual dimensions for each rectangle from question 7, given that $x = 30$ cm.

9. Lilly wants to laminate some posters. Suppose the area of one poster is represented by $4x^2 + 6x$, where x is measured in metres.
   a) What are the dimensions of the poster?
   b) Lilly's collection includes posters of many different sizes. Substitute values for $x = 1, 2, 3, 4, 5$

10. Mr. Walker owns a large area of land for farming. The area of his land is $50x^2 + 60x$. He wants to buy his neighbour's land to increase his farming area. His neighbour's land has an area of $20x^2 + 30x$. If Mr. Walker buys the land, he would own a large rectangular area.
    a) Write a quadratic expression that represents the total farming area if the 2 pieces of land were joined together.
    b) Factor the expression and determine the dimensions of the new piece of land.
    c) What are the actual dimensions of the land if $x = 2$ m?