

Name: _____

Date: _____

Pre Calculus 11: HW Prerequisite Lesson 2: Basic Algebra Skills Required for PC11

1. Find the GCF for each of the following and then simplify the expression:

a) $10ab^2c + 25a^3b^2c$	b) $15xy^3z + 10xyz - 50x^2y$
c) $343x^2y^3 + 98xy^2 + 14xy$	d) $24xy^3 + 48x^2y^2 - 90xz$
e) $12x(x+2) + 9y(x+2) - 15xy(x+2)$	f) $81xy(2x-1) - 27y^2(2x-1) + 54x^2y(2x-1)$
g) $24(x^2 - y^2) - 8x(x+y)$	h) $(2a^2 - 2b^2) + (6a + 6b)$

2. Multiply and then simplify each of the following

a) $(3x - 4y)(5x + 8y)$	b) $(2a - 7b)(3a + 8b)$
c) $(2a - 11b)(2a + 11b)$	d) $(6a - 14b)(a + 2b) - (a + b)(2a - b)$

e) $(2x - y)(3x + y) - (6x - y)(x - y)$	f) $(3x + y)(2x + 11y) + (7x - 9y)(y + 3y)$
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3. Factor each of the following :

a) $16x^2 - 49y^2$	b) $(2x - 1)^2 - 9x^2$	c) $81a^2 - (3a + 2b)^2$
d) $4(2x - y)^2 - 25z^2$	e) $18x^2y^2 - 50y^4$	f) $\frac{x^2}{16} - \frac{y^2}{49}$
g) $5x^4 - 80$	h) $(3x - 4)^2 - (x + 3)^2$	i) $(4x^2 - 4)^2 - 81x^4$

4. A large rectangle has a length of $3x + 8y$ and a width of $5x + 2y$. A small square with lengths of $2x + y$ is cut out of the rectangle. What is the area of the remaining shape?