NCM1B Unit 3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Date:

**Homework Lesson 2: Factoring by GCF and Grouping**

**Factor each by filling in the blanks.**

1) $12x+9y=3($\_\_\_\_\_\_\_\_ $+3y)$ 3) $\left(x^{2}+2xy\right)+\left(6kx+12ky\right)=x($\_\_\_\_\_\_\_\_$)+6k($\_\_\_\_\_\_\_\_$)$

2) $4abc+8abc^{2}=$\_\_\_\_\_\_\_\_ $(1+2c)$ 4) $\left(12a^{2}-20ab\right)+\left(9ay-15by\right)=4a($\_\_\_\_\_\_$)+3y($\_\_\_\_\_\_$)$

**Factor each polynomial.**

5) $7b^{2}+42b$ 6) $15m^{2}n-27mn^{2}+36m^{3}n^{4}$

7) $10xz^{2}+30z^{6}$ 8) $8s^{3}+24s^{2}q$

9) $16gh^{2}+8gh$ 10) $36k^{5}+24k^{3}-18k$

11) $8r^{3}-64r^{2}+r-8$ 12) $12p^{3}-21p^{2}-28p+49$

13)$ 12x^{3}+2x^{2}-30x-5$ 14) $21k^{3}-84k^{2}+15k-60$