

**GCF & Grouping Worksheet**  
Mr. Pemberton

Math 4SN

1. Factor the following by GCF.

a.  $6x + 36$

b.  $25x - 10$

c.  $8x^3 + 12$

d.  $x^3 + x$

e.  $2x^4 + 6x^3$

f.  $-144a^8 + 24a^6$

g.  $12x^2 + 16x - 8$

h.  $100 - 75z - 50z^2$

i.  $9x^4 + 6x^3 + 18x^2$

j.  $10ab + 10a^2b$

k.  $15m^4n^3 - 25m^7n + 30m^4n^8$

l.  $4\Delta\blacklozenge + 8\Delta^2\blacklozenge - 24\Delta^4\blacklozenge^5$

2. Factor the following by grouping.

a.  $t^3 - 3t^2 + 2t - 6$

b.  $x^3 + 6x^2 + 2x + 12$

c.  $16x^3 + 8x^2 + 2x + 1$

d.  $4u^3 - 2u^2 - 6u + 3$

e.  $x^3 - x^2 - 3x + 3$

f.  $10x^3 + 5x^2 + 8x + 4$

g.  $x^3 + 3x^2 - 6x - 18$

h.  $p^3 + 2p^2 + 4p + 8$

i.  $h^2 - hk + hr - kr$

j.  $p^2 - 2pq + pr - 2qr$

k.  $3\Delta\blacklozenge - 2\blacklozenge - 12\Delta + 8$