Lesson 3 memo

1. $(a-1)(2a^{2}+a+1)$

= $a\left(2a^{2}+a+1\right)-1\left(2a^{2}+a+1\right)$

= $2a^{3}+a^{2}+a-2a^{2}-a-1$

= $2a^{3}-a^{2}-1$

1. $\left(2a+3\right)(4a^{2}-6a+9)$

= $2a\left(4a^{2}-6a+9\right)+3(4a^{2}-6a+9)$

= $8a^{3}-12a^{2}+18a+12a^{2}-18a+27$

= $8a^{3}+27$

1. $(3x^{2}+xy-2y^{2})(x+2y)$

= $x\left(3x^{2}+xy-2y^{2}\right)+2y(3x^{2}+xy-2y^{2})$

= $3x^{3}+x^{2}y-2xy^{2}+6x^{2}y+2xy^{2}-4y^{3}$

= $3x^{3}+7x^{2}y-4y^{3}$