Algebra 2 CC Name _____
Factor by Grouping HW 2019

1.) Factor the expression $x^3 - 3x^2 - 16x + 48$ completely

2.) Factor the expression $8x^3 + 4x^2 - 18x - 9$ completely.

3.) When factored completely, the expression $3x^3 - 5x^2 - 48x + 80$ is equivalent to

(a) $(x^2 - 16)(3x - 5)$

(b) $(x^2 + 16)(3x - 5)(3x + 5)$

(c) $(x + 4)(x - 4)(3x - 5)$

(d) $(x + 4)(x - 4)(3x - 5)(3x - 5)$

4.) Factor the expression $6x^2 - 5xy - 24x + 20y$ completely.

5.) Find all the zero's of the expression $3m^3 - 3 + 9m - m^2$

6.) Which expression is equivalent to $x^6y^4\left(x^4 - 16\right) - 9\left(x^4 - 16\right)$?

(a) $x^{10}y^4 - 16x^6y^4 - 9x^4 - 144$

(b) $\left(x^6y^4 - 9\right)\left(x + 2\right)^3\left(x - 2\right)$

(c) $\left(x^3y^2 + 3\right)\left(x^3y^2 - 3\right)\left(x + 2\right)^2\left(x - 2\right)^2$

(d) $\left(x^3y^2 + 3\right)\left(x^3y^2 - 3\right)\left(x^2 + 4\right)\left(x^2 - 4\right)$