Factoring Polynomials Completely Notes

Recall from Monday - Factor out the GCF of the following polynomials.

1)
$$15y^3 - 18y^2 + 3y - 6$$

$$3(5\sqrt{3}-6\sqrt{2}+4-2)$$

2)
$$32x^4 - 8x^3 + 16x^2$$

Sometimes after we factor the CF out of the polynomial, the part that is

leftover in the parentheses is quadratic and can be factored

Let's refresh our memory on how to factor a quadratic.

Standard Form of a Quadratic:

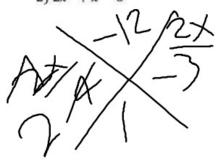
ux2+px+c

Method for Factoring:

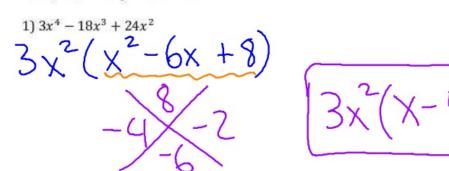
Factor the following quadratics:

1)
$$x^2 - 8x + 15$$

$$(\chi - 3)(\chi - 5)$$



First Step factor out GCF Now, let's finally FACTOR COMPLETELY.



$$(3x^2(X-4)(X-2))$$

While we're at it, let's find the zeros after factoring the next couple completely.

2)
$$12r^3 - 64r^2 + 80r$$

Hr (312-16+20)

$$\begin{array}{c} 3)x^{3}-9x \\ X(X^{2}-9) \\ A=1 \\ b=0 \\ (=-9) \end{array}$$