

Unit 9: Factoring Quadratics
FACTORING COMPLETELY
 Classwork

Name KEY
 Date: _____ Period: 10/14

When factoring a polynomial ask the following questions:

1. What type of polynomial is it? (binomial, trinomial, ^{different} variables)
2. Is there a GCF for all terms I can divide out?
3. Do I need the Box? Is it prime? (if $a=1$ don't need it) (otherwise \rightarrow yes)
4. Are my factors correct?
 if only 1 variable \rightarrow on calculator $y_1 =$ $y_2 =$ $y_1 = y_2?$
 \rightarrow not table

Factor each polynomial, if possible. If the polynomial cannot be factored, write prime.

1. $\frac{42x^2}{6x} - \frac{36xy}{6x}$

$6x(7x - 6y)$

2. $x^2 - 7x + 6$

$(x-1)(x-6)$

3. $x^2 - 30x + 225$

$(x-15)(x-15)$
 $(x-15)^2$

4. $x^2 + 11x + 6$

Prime

5. $\frac{3a^2}{3} - \frac{147}{3}$

$3(a+7)(a-7)$

6. $\frac{18x^2}{2} - \frac{48x}{2} + \frac{32}{2}$

$2(3x-4)^2$

7. $\frac{2x^3}{2x} + \frac{10x^2}{2x} + \frac{12x}{2x}$

$2x(x+2)(x+3)$

8. $(a+3)^2 - 16$

$(a+7)(a-1)$

challenge question

9. $a^2b^2 - b^2 + a^2c^2 - c^2$

$(a^2-1)(b^2+c^2)$
 $(a+1)(a-1)(b^2+c^2)$