When do you use each?

$(\quad \pm \quad)$ $\qquad\qquad$ $(\qquad)^2$

Factoring steps

Binomials

1. Look for GCF
2. After this if both terms are perfect squares with subtraction Finish Factoring:

   $a^2 - b^2 = (a+b)(a-b)$

   if not:

   You're Done.

Factoring steps

Trinomials

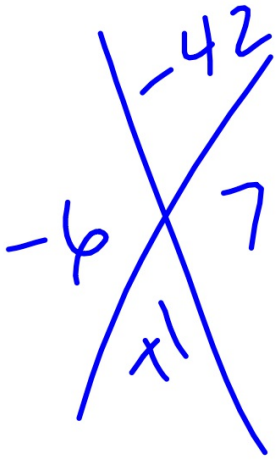
1. Look for GCF
2. After this look to factor into two binomials using the "X" and the "Box"

For each binomial look to see if it is the difference of Perfect Squares!

Factor each completely.

1. $p^2 - 14p + 49$ $(p-7)^2$

2. $3Q^3 + 3Q^2 - 126Q$ $3Q(Q^2+Q-42)$

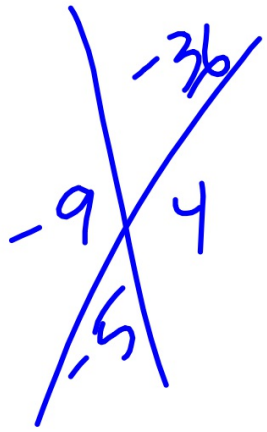


$3Q(Q-6)(Q+7)$

3. $g^2 - 361$

$(g+19)(g-19)$

4. $c^4 - 5c^2 - 36$ $(c \pm 3)(c^2+4)$



$c^2 - 9$

c^2	c^4	$-9c^2$
$+4$	$4c^2$	-36

5. $96k^4 - 150$

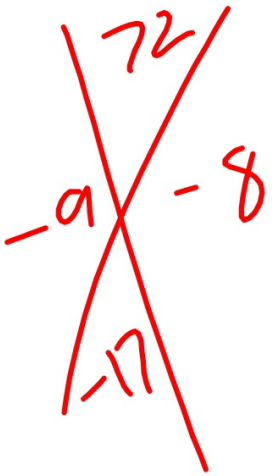
$6(16k^4 - 25)$

$6(4k^2 \pm 5)$

6. $64w^2 + 48w + 9$

$(8w+3)^2$

7. $6a^2 - 17ab + 12b^2$



$2a - 3b$

$3a$	$6a^2$	$-9ab$
$-4b$	$-8ab$	$12b^2$

$(2a-3b)(3a-4b)$

8. $24d^3 - 40d^2$

$8d^2(3d - 5)$

Section 9-8: Factoring Four Terms

How would you factor this?

$$2m^3 + 3m^2 - 8m - 12$$

Factoring steps

Polynomial with 4 terms:

1. Look for GCF
2. After this try factoring with the "Box"
   (factor by grouping)

For each binomial look to see if
it is the difference of Perfect Squares!

Factor Completely.

$8c^3 - 240c$ $8c(c^2-30)$

Factor Completely.

$24R^5 - 54R^3$

$6R^3(4R^2 - 9)$

$6R^3(2R \pm 3)$

Factor Completely.

$6x^3 + 15x^2 - 54x - 135$

$3(2x^3 + 5x^2 - 18x - 45)$ x^2

$3(2x+5)(x^2 - 9) - 9$

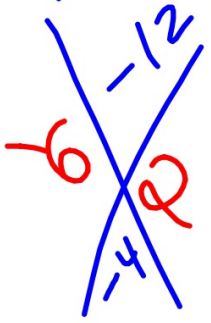
$3(2x+5)(x \pm 3)$

	$2x$	5
x^2	$2x^3$	$5x^2$
-9	$-18x$	-45

Factor Completely.

$6h^4 - 24h^3 - 72h^2$

$6h^2(h^2 - 4h - 12)$



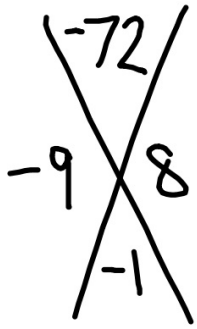
$6h^2(h-6)(h+2)$

	h	-6
h	h^2	$-6h$
2	$2h$	-12

Factor Completely.

$8g^4 - 2g^2 - 36$

$2(4g^4 - g^2 - 18)$



	$4g^2$	-9
$1g^2$	$4g^4$	$-9g^2$
2	$8g^2$	-18

$2(4g^2 - 9)(1g^2 + 2)$

$2(2g+3)(1g^2+2)$

Factor Completely.

$25m^2 - 60m + 36$

900

\+

−60

$(5m-6)^2$

IXL #12 - AA.5 & AA.6 due Saturday by 4pm!