STATION: GCF (there will be one prime and one double factor!)

1) $4x^3 - 9x^2 + 16x$

$x(x^2 - 9x + 16)$

2) $60x^5 - 105x^2$

$15x^2(4x^3 - 7)$

3) $x + x^2$

$x(1 + x)$

4) $7x^2 + 42x + 35$

$7(x^2 + 6x + 5)$

$7(x+5)(x+1)$

5) $x^2 + 4$

PRIME!

6) $2x^2 - 4x - 70$

$2(x^2 - 2x - 35)$

$2(x - 7)(x+5)$

STATION: GCF (there will be one prime and one double factor!)

2) $4x^3 - 9x^2 + 16x$

2) $60x^5 - 105x^2$

3) $x + x^2$

4) $7x^2 + 42x + 35$

5) $x^2 + 4$

6) $2x^2 - 4x - 70$

STATION: Grouping

1) $x^3 + 2x^2 + 3x + 6$

$x^2(x+2)\ 3(x+2)$

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

2) $(40x^3 - 16x^2 + 15x - 6)$

$8x^2(5x-2)\ 3(5x-2)$

$(8x^2+3)(5x-2)$

3) $5x^3 - 5x^2 - x + 1$

$5x^2(x-1) - 1(x-1)$

$(5x^2-1)(x-1)$

$2x^3-6x^2+x-3$

4) [illegible]

$2x^2(x-3)\ 1(x-3)$

[illegible]

$(2x^2+1)(x-3)$

STATION: Grouping

1) $x^3 + 2x^2 + 7x + 4$

2) $40x^3 - 16x^2 + 15x - 6$

3) $5x^3 - 5x^2 - x + 1$

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

STATION: a=1 (there are 2 GCF FIRST problems)

1) $x^2 + 13x + 36$

$(x+9)(x+4)$

2) $x^2 - 8x - 20$

$(x-10)(x+2)$

3) $3x^2 - 30x + 75$

$3(x^2 - 10x + 25)$

$3(x-5)(x-5)$

4) $x^2 + 4x - 12$

$(x+6)(x-2)$

5) $4x^2 - 4x + 24$

$4(x^2 - x + 6)$

$4(x-3)(x+2)$

6) $x^2 + x - 20$

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

STATION: a=1 (there are 2 GCF FIRST problems)

1) $x^2 + 13x + 36$

2) $x^2 - 8x - 20$

3) $3x^2 - 30x + 75$

4) $x^2 + 4x - 12$

5) $4x^2 - 4x + 24$

6) $x^2 + x - 20$

STATION: Difference of Squares (there are 3 GCF FIRST problems and 2 primes! ;)

1) $x^2 - 1$
$(x+1)(x-1)$

2) $x^2 - 169$
$(x+13)(x-13)$

3) $2x^2 - 128$
$2(x^2-64)$
$2(x+8)(x-8)$

4) $x^2 + 25$
PRIME!

5) $9x^2 - 169$
$(3x+13)(3x-13)$

6) $4x^2 - 1$
$(2x+1)(2x-1)$

7) $16x^2 + 25$
PRIME!

8) $5x^2 - 245$
$5(x^2-49)$
$5(x+7)(x-7)$

9) $144x^2 - 225$
$(12x+15)(12x-15)$

10) $12x^2 - 3$
$3(4x^2-1)$
$3(2x+1)(2x-1)$

STATION: Difference of Squares (there are 3 GCF FIRST problems and 2 primes! ;)

1) $x^2 - 1$

2) $x^2 - 169$

3) $2x^2 - 128$

4) $x^2 + 25$

5) $9x^2 - 169$

6) $4x^2 - 1$

7) $16x^2 + 25$

8) $5x^2 - 245$

9) $144x^2 - 225$

10) $12x^2 - 3$

STATION: a>1

1) $5x^2 - 2x - 3$

-15 ,2
1,15
3,5

$5x^2 - 5x + 3x - 3$

$5x(x-1)\ 3(x-1)$

$(5x+3)(x-1)$

2) $2x^2 + 21x + 45$

90
1,90
2,45
3,30
5,18
6,15

$2x^2 + 6x + 15x + 45$

$2x(x+3)\ 15(x+3)$

$(2x+15)(x+3)$

3) $3x^2 + 18x - 7$

-21
1,21
3,7

$3x^2 + 7x - 3x - 7$

$x(3x+7) - 1(3x+7)$

$(x-1)(3x+7)$

4) $3x^2 + 32x - 48$

-144
1,144
2,72
3,48
4,36

$3x^2 + 36x - 4x - 48$

$x(x+12) - 4(+12)$

$(x-4)(x+12)$

5) $6x^2 - 13x + 6$

STATION: a>1

1) $5x^2 - 2x - 3$

2) $2x^2 + 21x + 45$

3) $3x^2 + 18x - 7$

4) $3x^2 + 32x - 48$

5) $6x^2 - 13x + 6$

STATION: Solving! (you know it is a solving problem if it =0!)

1) $5x^2 + 27x - 18 = 0$

-90
$1, 90$
$2, 45$
$3, 30$
$5, 18$
$6, 15$

$5x^2 + 3x + 30x - 18$

$x(5x-3) + 6(5x-3)$

$(x+6)(5x-3) = 0$

SOLUTIONS -6 AND $3/5$

2) $5x^2 - 125 = 0$

$5(x^2-25) = 0$

$5(x+5)(x-5) = 0$

SOLUTIONS -5 AND 5

3) $x^2 - 6x - 40 = 0$

$(x-10)(x+4) = 0$

SOLUTIONS 10 AND -4

4) $x^2 + x - 12 = 0$

$(x+4)(x-3) = 0$

SOLUTIONS -4 AND 3

5) $6x^2 - 54 = 0$

$6(x^2-9) = 0$

$6(x+3)(x-3) = 0$

SOLUTIONS -3 AND 3

6) $x^2 + 3x - 18 = 0$

$(x+6)(x-3) = 0$

SOLUTIONS -6 AND 3

STATION: Solving! (you know it is a solving problem if it =0!)

1) $5x^2 + 27x - 18 = 0$

2) $5x^2 - 125 = 0$

3) $x^2 - 6x - 40 = 0$

4) $x^2 + x - 12 = 0$

5) $6x^2 - 54 = 0$

6) $x^2 + 3x - 18 = 0$