Warm Up

Factor the following:

1) $n^2 + 7n - 30$

30
1 x 30
2 x 15
3 x 10
5 x 6

$(+10) + (-3) = +7$

$(n-3)(n+10)$

2) $b^2 + 11b + 30$

$(b+5)(b+6)$

3) $\frac{-5x^2}{-5} + \frac{40x}{-5} - \frac{35}{-5}$

-1×-7

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

$-5(x-1)(x-7)$

c) $\frac{4x^2}{4} + \frac{4x}{4} - \frac{48}{4}$

Mult -12
Add +1

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

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

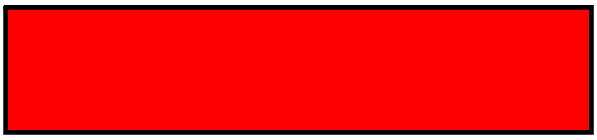
12
1 x 12
2 x 6
3 x 4

$4 + (-3) = +1$

When working with Factoring trinomials

-Always check for GCF first

$$n^3 - 4n^2 - 21n$$



$$2n^2 - 14n + 24$$

$$2(n-3)(n-4)$$

$$3r^3 + 24r^2 + 45r$$

$$3r(r+3)(r+5)$$

Factor Each of the following:
(Finish For homework)

1. $x^2 - 14x + 45$	2. $x^2 + 17x + 60$
3. $x^2 - 18x + 80$	4. $x^2 - 10x + 16$
5. $x^2 - 6x + 9$	6. $x^2 - 7x + 6$
7. $x^2 + 20x + 99$	8. $x^2 + 3x - 18$
9. $x^2 - 3x - 88$	10. $x^2 - 16x + 48$
11. $x^2 + 11x + 30$	12. $x^2 - 14x + 33$
13. $x^2 + x - 30$	14. $x^2 - 3x - 70$
15. $x^2 + 8x - 9$	16. $x^2 - 16x + 55$
17. $x^2 + 6x - 72$	18. $x^2 + 5x - 50$
19. $x^2 + 10x + 24$	20. $x^2 + 6x - 16$

Factor Each of the following:
(Finish For homework)

1. $x^2 - 14x + 45$	(x-9) (x-5)	2. $x^2 + 17x + 60$	(x+5) (x+12)
3. $x^2 - 18x + 80$	(x-8) (x-10)	4. $x^2 - 10x + 16$	(x-8) (x-2)
5. $x^2 - 6x + 9$	(x-3) (x-3)	6. $x^2 - 7x + 6$	(x-6) (x-1)
7. $x^2 + 20x + 99$	(x+11) (x+9)	8. $x^2 + 3x - 18$	(x-3) (x+6)
9. $x^2 - 3x - 88$	(x+8) (x-11)	10. $x^2 - 16x + 48$	(x-12) (x-4)
11. $x^2 + 11x + 30$	(x+6) (X+5)	12. $x^2 - 14x + 33$	(x-11) (x-3)
13. $x^2 + x - 30$	(x+6) (x-5)	14. $x^2 - 3x - 70$	(x-10) (x+7)
15. $x^2 + 8x - 9$	(x+9) (x-1)	16. $x^2 - 16x + 55$	(x-5) (x-11)
17. $x^2 + 6x - 72$	(x-6) (x+12)	18. $x^2 + 5x - 50$	(x+10) (x-5)
19. $x^2 + 10x + 24$	(x+6) (x+4)	20. $x^2 + 6x - 16$	(x+8) (x-2)

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#21 c-f

c) $\frac{4x^2}{4} + \frac{4x}{4} - \frac{48}{4}$

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

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

12
1 x 12
2 x 6
3 x 4

d) $10x^2 + 80x + 120$

+ x +

$10(x^2 + 8x + 12)$

$10(x+2)(x+6)$

12
1 x 12
2 x 6
3 x 4

e) $\frac{-5n^2}{-5} + \frac{40n}{-5} - \frac{35}{-5}$

$-5(n^2 - 8n + 7)$

$-5(n-1)(n-7)$

-1×-7

$x^2 + 17x + 9$

DNF.

1×9

3×3

f) $7c^2 - 35c + 42$

$7(c^2 - 5c + 6)$

$7(c-2)(c-3)$

6
1x6
2x3

$6 - 12z + 18z^2$

$6(1 - 2z + 3z^2)$

$6(3z^2 - 2z + 1)$

① $\frac{-36x^2y^4}{-12x^2y^2} - \frac{12x^4y^3}{-12x^2y^2} - \frac{12x^3y^2}{-12x^2y^2}$

$-12x^2y^2(3y^2 + x^2y + x)$

② $2x^4 + 8x^3 + 16x^2$

$2x^2(x^2 + 4x + 8)$

8
1×8
2×4

③ $\frac{-30c^2x^2y^2}{-30x^2y^2} - \frac{180cx^2y^2}{-30x^2y^2} - \frac{270x^2y^2}{-30x^2y^2}$

$-30x^2y^2(c^2 + 6c + 9)$

$-30x^2y^2(c+3)(c+3)$

$-30x^2y^2(c+3)^2$

9
1×9
3×3

d) $\frac{10x^2}{10} + \frac{80x}{10} + \frac{120}{10}$

$10(x^2 + 8x + 12)$

$10(x+2)(x+6)$

12
1 x 12
2 x 6
3 x 4

~~2 x 6~~
(+ x +)

f) $\frac{7c^2}{7} - \frac{35c}{7} + \frac{42}{7}$

$7(c^2 - 5c + 6)$

$7(c-2)(c-3)$

6
1 x 6
2 x 3

$n^2 + 11n + 24$

$(n+3)(n+8)$

24

1 x 24

2 x 12

3 x 8

4 x 6

Worksheet #1-10 for Home-Work

1) $n^2 + 11n + 24$

2) $v^2 + 8v + 15$

3) $x^2 - 6x - 16$

4) $x^2 + 3x - 54$

5) $n^2 - 12n + 32$

6) $k^2 + 10k + 16$

7) $r^2 + 7r - 18$

8) $n^2 + 3n - 18$

9) $x^2 + 4x - 60$

10) $p^2 + 5p - 14$