FACTORING

*1. GCF
2. GROUPING (4 OR MORE TERMS)
3. P-SD (FORM: x^2+bx+c)
4. KEY # (FORM: ax^2+bx+c)
5. DOTS (2 TERMS WITH A MINUS BETWEEN THEM)

① $n^2+14n+40$

$(n+4)(n+10)$

40

Product	Sum	Diff.
1·40	41	39
2·20	22	18
4·10	(14)	6
5·8	13	3

S = SAME SIGNS
D = DIFF. SIGNS
NOTE: LARGER # IN P OF COLUMN IS SAME SIGN AS MIDDLE TERM

② $z^2-12z+32$

$(z-4)(z-8)$

32

P	S	D
1·32	33	31
2·16	18	14
4·8	(12)	4

③ $y^2+2y-80$

$(y-8)(y+10)$

80

P	S	D
1·80	81	79
2·40	42	38
4·20	24	16
5·16	21	11
8·10	18	(2)

④ $x^2+3x-20$

PRIME

20

P	S	D
1·20	21	19
2·10	12	8
4·5	9	1

⑤ $x^2-9xy+18y^2$

$(x-3y)(x-6y)$

18

P	S	D
1·18	19	17
2·9	11	7
3·6	(9)	3

⑥ $3x^2+48x+144$

$3(x^2+16x+48)$

$3(x+4)(x+12)$

48

P	S	D
1·48	49	47
2·24	26	22
4·12	(16)	8
6·8	14	2

⑦ $5x^2y^2-65xy^2+180y^2$

$5y^2(x^2-13x+36)$

$5y^2(x-4)(x-9)$

36

P	D	S
1·36	35	37
2·18	16	20
3·12	9	15
4·9	5	(13)
6·6	0	12

⑧ $52x-4x^2-168$

$-4x^2+52x-168$

$-4(x^2-13x+42)$

$-4(x-6)(x-7)$

42

P	S	D
1·42	43	41
2·21	23	19
3·14	17	11
6·7	(13)	1