

3.) $(a+2)(a+3)$
 F O I L
 $a^2 + 3a + 2a + 6$

ans: $a^2 + 5a + 6$

6.) $(x-7)(x-2)$
 $x^2 - 2x - 7x + 14$

ans: $x^2 - 9x + 14$

9.) $(b-8)(b-10)$
 $b^2 - 10b - 8b + 80$

ans: $b^2 - 18b + 80$

12.) $(12-r)(6+r)$

| | | |
|----|------|-----------------|
| | 12 | -r |
| 6 | 72 | -6r |
| +r | +12r | -r ² |

ans: $72 + 6r - r^2$
 or
 $-r^2 + 6r + 72$

15.) $(5a+9)(5a-9)$

| | | |
|----|------------------|------|
| | 5a | +9 |
| 5a | 25a ² | +45a |
| -9 | -45a | -81 |

ans: $25a^2 - 81$

18.) $(2x+3)(2x-3)$

| | | |
|----|-----------------|-----|
| | 2x | +3 |
| 2x | 4x ² | +6x |
| -3 | -6x | -9 |

ans: $4x^2 - 9$

21.) $(a-b)(a+b)$

| | | |
|---|----------------|-----------------|
| | a | -b |
| a | a ² | -ab |
| b | ab | -b ² |

$a^2 - ab + ab - b^2 = a^2 - b^2$ ans.

24.) $(x-4y)(x+4y)$

| | | |
|-----|----------------|-------------------|
| | x | +4y |
| x | x ² | +4xy |
| -4y | -4xy | -16y ² |

ans: $x^2 - 16y^2$

27.) $(r^2+5)(r^2-2)$

| | | |
|----------------|------------------|------------------|
| | r ² | -2 |
| r ² | r ⁴ | -2r ² |
| +5 | +5r ² | -10 |

ans: $r^4 + 3r^2 - 10$

33.) $(x+4)(x+4)(x+4) \rightarrow$ just like $(3)(3)(3)$
 $\xrightarrow{\text{mult. 1st}}$ $\begin{matrix} 9(3) \\ 27 \end{matrix}$

$x^2 + 4x + 4x + 16$
 $(x^2 + 8x + 16)(x + 4)$

| | | | | |
|-------|----------|----------|---------|----------------------------|
| | x^2 | $+ 8x$ | $+ 16$ | |
| x | x^3 | $+ 8x^2$ | $+ 16x$ | $= x^3 + 12x^2 + 48x + 64$ |
| $+ 4$ | $+ 4x^2$ | $+ 32x$ | $+ 64$ | |

answer!

44.) $A = lw$
 $= (2x - 5)(x + 7)$

Area $2x^2 + 14x - 5x - 35$
 $A = 2x^2 + 9x - 35$

or

| | | |
|-------|---------|--------|
| | $2x$ | $- 5$ |
| x | $2x^2$ | $- 5x$ |
| $+ 7$ | $+ 14x$ | $- 35$ |

same

ans: $2x^2 + 9x - 35$