

## Routine Expanding Practice #1

Expand and simplify:

1.  $3(x + 5)$

2.  $-(x + 7)$

3.  $2(3x + 5)$

4.  $-4(4x - 2)$

5.  $2(x + 2) + 3(x + 7)$

6.  $5(2x + 3) - 2(x + 2)$

7.  $2(x + 5) - 4(x + 4)$

8.  $5(x - 5) - 3(x - 3)$

9.  $2(x + 2) - 3(x + 7)$

10.  $10(2x - 5) - 2(x - 3)$

11.  $(x + 1)(x + 7)$

12.  $(x + 2)(x + 4)$

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

14.  $(x + 6)(x - 8)$

15.  $(x - 1)(x - 3)$

16.  $(x - 2)(x - 3)$

17.  $(x + 6)^2$

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

19.  $(x + 5)(x + 7)$

20.  $(k + 6)(4 - k)$

## Answers: Routine Expanding Practice #1

Expand and simplify:

1.  $3(x + 5) = 3x + 15$
2.  $-(x + 7) = -x - 7$
3.  $2(3x + 5) = 6x + 10$
4.  $-4(4x - 2) = -16x + 8$  (as  $-4 \times -2 = +8$ )
5.  $2(x + 2) + 3(x + 7) = 2x + 4 + 3x + 21 = 5x + 25$
6.  $5(2x + 3) - 2(x + 2) = 10x + 15 - 2x - 4 = 8x + 11$
7.  $2(x + 5) - 4(x + 4) = 2x + 10 - 4x - 16 = -2x - 6$
8.  $5(x - 5) - 3(x - 3) = 5x - 25 - 3x + 9 = 2x - 16$
9.  $2(x + 2) - 3(x + 7) = 2x + 4 - 3x - 21 = -x - 17$
10.  $10(2x - 5) - 2(x - 3) = 20x - 50 - 2x + 6 = 18x - 44$
11.  $(x + 1)(x + 7) = x^2 + 7x + 1x + 7 = x^2 + 8x + 7$
12.  $(x + 2)(x + 4) = x^2 + 4x + 2x + 8 = x^2 + 6x + 8$
13.  $(x - 2)(x + 3) = x^2 + 3x - 2x - 6 = x^2 + x - 6$
14.  $(x + 6)(x - 8) = x^2 - 8x + 6x - 48 = x^2 - 2x - 48$
15.  $(x - 1)(x - 3) = x^2 - 3x - 1x + 3 = x^2 - 4x + 3$
16.  $(x - 2)(x - 3) = x^2 - 3x - 2x + 8 = x^2 - 5x + 6$
17.  $(x + 6)^2 = (x + 6)(x + 6) = x^2 + 6x + 6x + 36 = x^2 + 12x + 36$
18.  $(x - 4)(x + 3) = x^2 + 3x - 4x - 12 = x^2 - x - 12$
19.  $(x + 5)(x + 7) = x^2 + 7x + 5x + 35 = x^2 + 12x + 35$
20.  $(k + 6)(4 - k) = 4k - k^2 - 6k + 24 = -k^2 - 2k + 24$

Minuses can be written as plus the negative (e.g.  $3x - 5 = 3x + -5$ ).

Answers can be in any order, so long as the  $-$  signs are correct.