

## Homework #5

Expand:

1.  $2(k - 1) + k(k - 1)$

2.  $y(y + 2) - 6(y + 3)$

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

4.  $3(x - 5) + 5(x + 3)$

5.  $g(g - 5) - 6(g + 4)$

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

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

8.  $3(x - 5) - x(x + 1)$

9.  $4(4 + x) - 2(x + 4)$

10.  $7(x - 2) - 5(x - 2)$

11.  $4(x - 3) + 2(x - 4)$

12.  $3(x + 2) - (x - 2)$

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

14.  $(x - 5)(x - 4)$

15.  $(x - 10)(x + 7)$

16.  $(x - 2)(x - 9)$

17.  $(x + 1)(x - 1)$

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

19.  $(q - 6)(q + 8)$

20.  $(x - 6)(x + 6)$

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

22.  $(x - 1)(y - 3)$

23.  $(x + 1)^2$

24.  $(2 + x)^2$

## Answers: Homework #5

“Expand” also includes fully simplifying your answers

1.  $2(k - 1) + k(k - 1) = 2k - 2 + k^2 - 1k = k^2 + k - 2$
2.  $y(y + 2) - 6(y + 3) = y^2 + 2y - 6y - 18 = y^2 - 4y - 18$
3.  $x(x + 4) - 4(x - 4) = x^2 + 4x - 4x + 16 = x^2 + 16$
4.  $3(x - 5) + 5(x + 3) = 3x - 15 + 5x + 15 = 8x$
5.  $g(g - 5) - 6(g + 4) = g^2 - 5g - 6g - 24 = g^2 - 11g - 24$
6.  $x(x + 4) - 6(x - 2) = x^2 + 4x - 6x + 12 = x^2 - 2x + 12$
7.  $5(x + 5) - 2(x - 4) = 5x + 25 - 2x + 8 = 3x + 33$
8.  $3(x - 5) - x(x + 1) = 3x - 15 - x^2 - 1x = -x^2 + 2x - 15$
9.  $4(4 + x) - 2(x + 4) = 16 + 4x - 2x - 8 = 8 + 2x$
10.  $7(x - 2) - 5(x - 2) = 7x - 14 - 5x + 10 = 2x - 4$
11.  $4(x - 3) + 2(x - 4) = 4x - 12 + 2x - 8 = 6x - 20$
12.  $3(x + 2) - (x - 2) = 3x + 6 - x + 2 = 2x + 8$
13.  $(x - 2)(x + 3) = x^2 + 3x - 2x + 6 = x^2 + x + 6$
14.  $(x - 5)(x - 4) = x^2 - 4x - 5x + 20 = x^2 - 9x + 20$
15.  $(x - 10)(x + 7) = x^2 + 7x - 10x - 70 = x^2 - 3x - 70$
16.  $(x - 2)(x - 9) = x^2 - 9x - 2x + 18 = x^2 - 11x + 18$
17.  $(x + 1)(x - 1) = x^2 - x + x - 1 = x^2 - 1$
18.  $(k - 2)(k + 3) = k^2 + 3k - 2k - 6 = k^2 + k - 6$
19.  $(q - 6)(q + 8) = q^2 + 8q - 6q - 48 = q^2 + 2q - 48$
20.  $(x - 6)(x + 6) = x^2 + 6x - 6x - 36 = x^2 - 36$
21.  $(x - 1)(x - 3) = x^2 - 3x - 1x + 3 = x^2 - 4x + 3$
22.  $(x - 1)(y - 3) = xy - 3x - 1y + 3$
23.  $(x + 1)^2 = (x + 1)(x + 1) = x^2 + x + x + 1 = x^2 + 2x + 1$
24.  $(2 + x)^2 = (2 + x)(2 + x) = 4 + 2x + 2x + x^2 = x^2 + 4x + 4$