

## Homework #6

Expand

1.  $5(y + 2) + y(2 + y)$

2.  $-5(k + 4) - 3(4 + k)$

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

4.  $5(x + 3) - 4(x - 2)$

5.  $5(y + 3) + -5(y + 1)$

6.  $4(k - 4) + 2(k - 1)$

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

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

9.  $4(x + 4) - 3(x - 3)$

10.  $2(x - 3) + 6(x + 4)$

11.  $5(x + 2) - 10(x - 1)$

12.  $5(4 + x) - 6(x + 4)$

13.  $(x - 5)(x + 8)$

14.  $(x - 5)(x - 2)$

15.  $(x - 2)(x + 7)$

16.  $(x - 2)(x - 1)$

17.  $(x + 5)(x - 5)$

18.  $(k - 6)(k + 2)$

19.  $(q - 5)(q + 7)$

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

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

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

23.  $(x + 3)^2$

24.  $(5 - x)^2$

## Answers: Homework #6

“Expand” also includes fully simplifying your answers

1.  $5(y + 2) + y(2 + y) = 5y + 10 + 2y + y^2 = y^2 + 7y + 10$
2.  $-5(k + 4) - 3(4 + k) = -5k - 20 - 12 - 3k = -8k - 32$
3.  $4(x - 3) + x(x + 5) = 4x - 12 + x^2 + 5x = x^2 + 9x - 12$
4.  $5(x + 3) - 4(x - 2) = 5x + 15 - 4x + 8 = x + 23$
5.  $5(y + 3) + -5(y + 1) = 5y + 15 + -5y + -5 = 10$
6.  $4(k - 4) + 2(k - 1) = 4k - 16 + 2k - 2 = 6k - 18$
7.  $4(x + 5) - (x - 5) = 4x + 20 - x + 5 = 3x + 25$
8.  $x(x + 5) - 5(x + 4) = x^2 + 5x - 5x - 20 = x^2 - 20$
9.  $4(x + 4) - 3(x - 3) = 4x + 16 - 3x + 9 = x + 25$
10.  $2(x - 3) + 6(x + 4) = 2x - 6 + 6x + 24 = 8x + 18$
11.  $5(x + 2) - 10(x - 1) = 5x + 10 - 10x + 10 = -5x + 20$
12.  $5(4 + x) - 6(x + 4) = 20 + 5x - 6x - 24 = -x - 4$
13.  $(x - 5)(x + 8) = x^2 + 8x - 5x - 40 = x^2 + 3x - 40$
14.  $(x - 5)(x - 2) = x^2 - 2x - 5x + 10 = x^2 - 7x + 10$
15.  $(x - 2)(x + 7) = x^2 + 7x - 2x - 14 = x^2 + 5x - 14$
16.  $(x - 2)(x - 1) = x^2 - 1x - 2x + 2 = x^2 - 3x + 2$
17.  $(x + 5)(x - 5) = x^2 - 5x + 5x - 25 = x^2 - 25$
18.  $(k - 6)(k + 2) = k^2 + 2k - 6k - 12 = k^2 - 4k - 12$
19.  $(q - 5)(q + 7) = q^2 + 7q - 5q - 48 = q^2 + 2q - 48$
20.  $(x - 3)(x + 3) = x^2 + 3x - 3x - 9 = x^2 - 9$
21.  $(x - 5)(x - 3) = x^2 - 3x - 5x + 15 = x^2 - 8x + 15$
22.  $(x - y)(y - x) = xy - x^2 - y^2 + xy = 2xy - x^2 - y^2$
23.  $(x + 3)^2 = (x + 3)(x + 3) = x^2 + 3x + 3x + 9 = x^2 + 6x + 9$
24.  $(5 - x)^2 = (5 - x)(5 - x) = 25 - 5x - 5x + x^2 = x^2 - 10x + 25$