Simplifying Algebraic Expressions

Complete the table below by writing an equivalent expression in the 2nd column and the simplified expression in the 3rd column.

| **Given Expression** | **Equivalent Expression** | **Simplified Expression** |
| --- | --- | --- |
| **1)** | (4*x* + 5*y*) + (3*x* + 8*y*) |  |  |
| **2)** | (5*x* – 3*y*) + (2*x* + 6*y*) |  |  |
| **3)** | (*x* + 7*y*) – (3*x* + 2*y*) |  |  |
| **4)** | (4*x* – 5*y*) + (–8*x* + 5*y*) |  |  |
| **5)** | 4*x* + (3*x* – 7*y*) |  |  |
| **6)** | (12*x* – 3*y*) + (–8*x* + 7*y*) |  |  |
| **7)** | –(4*x* – 5*y*) – (3*x* + 2*y*) |  |  |

# Different Variables

Simplify each of the following expressions.

|  |  |  |
| --- | --- | --- |
| **8)** (4*a* + 3*b* – 5*c*) + (2*a* – 8*b* + 12*c*) | **9)** (4@ + 3#) + (6@ – 9#) | **10)** (Δ + 3Σ) – (–3Δ + 9Σ) |