## Multiplying Polynomials

## Simplify:

1. $(x+3)(x-7)$
2. $(2 x-4)(x+6)$
3. $(-3 x-5)(2 x-9)$
4. $(x+5)\left(x^{2}+4 x+8\right)$
5. $(x+2)\left(3 x^{2}+3 x-7\right)$
6. $(x-1)\left(2 x^{2}-6 x-4\right)$
7. $(4 x-2)(x+6)(3 x+3)$
8. $(2 x+1)(3 x+2)(x+5)$

Situation 1: There is a square garden and the garden is going to be expanded in two directions.
The length and width of the garden are going to be expanded by 3 feet. What is the area of the resulting garden?

Area $=$ $\qquad$

Situation 2: Find the area of the shaded region.


