

3 Classwork 3 MAT 1275 Professor Chiu

Name: Sol.

1. Simplify and check at an appropriate value:

$$(4x^2 - 6x + 1) - (7x^2 - 8x - 2)$$

$$\begin{aligned} & 4x^2 - 6x + 1 - 7x^2 + 8x + 2 \\ &= 4x^2 - 7x^2 - 6x + 8x + 1 + 2 \\ &= (4 - 7)x^2 + (-6 + 8)x + 3 \\ &= \boxed{-3x^2 + 2x + 3} \end{aligned}$$

2. Multiply:

$$(y - 5)(2y + 3)$$

$$\begin{aligned} &= 2y^2 - 10y + 3y - 15 \\ &= \boxed{2y^2 - 7y - 15} \end{aligned}$$

The diagram shows a 2x2 grid of terms:

y	-5
$2y$	3

Arrows indicate the following operations:

- $2y \cdot y \rightarrow 2y^2$ (top-left cell)
- $(-5) \cdot 2y \rightarrow -10y$ (top-right cell)
- $3 \cdot y \rightarrow 3y$ (bottom-left cell)
- $3 \cdot (-5) \rightarrow -15$ (bottom-right cell)