

$$a) (4m^2 + 4m - 5) + (2m^2 - 2m + 1)$$

$$4m^2 + 2m^2 + 4m - 2m - 5 + 1$$

$$\boxed{6m^2 + 2m - 4}$$

$$g) (6 - 7x + x^2) + (6x - 6x^2 + 10)$$

$$x^2 - 6x^2 - 7x + 6x + 6 + 10$$

$$\boxed{-5x^2 - x + 16}$$

$$f) (\cancel{3x^2} - 7x + 5) + (6x - \cancel{6x^2} + 8)$$

$$\underbrace{3x^2 - 6x^2} \quad \underbrace{-7x + 6x} \quad \underbrace{+5 + 8}$$

$$-3x^2 - 1x + 13$$

Method 2:

Add vertically. Line up the like terms, then add their coefficients.

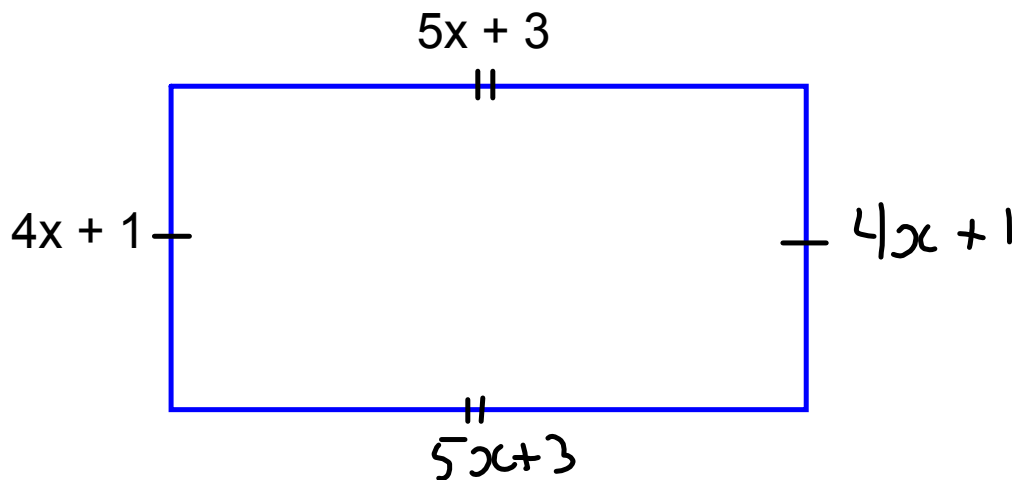
$$\begin{array}{r} 5c - 11 \\ + -4c^2 + c + 7 \\ \hline -4c^2 + 6c - 4 \end{array}$$



$$\text{So, } (5c - 11) + (-4c^2 + c + 7) = -4c^2 + 6c - 4$$

Determining a Polynomial for the perimeter of a rectangle

- a) Write a polynomial for the perimeter of this rectangle.
Simplify the polynomial.



Perimeter = the sum of all sides

$$= (4x + 1) + (4x + 1) + (5x + 3) + (5x + 3)$$

~~$$= 4x + 1 + 4x + 1 + 5x + 3 + 5x + 3$$~~

$$= 4x + 4x + 5x + 5x + 1 + 1 + 3 + 3$$

$$= 18x + 8$$

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The perimeter is

Adding Polynomials in Two Variables

$$\text{Add: } (3s^2 + s - 4c - 5cs + 2s^2) + (-5c^2 + 3cs + 6c - 4s + 7c^2)$$

Remove Brackets.

$$= 3s^2 + s - 4c - 5cs + 2s^2 - 5c^2 + 3cs + 6c - 4s + 7c^2$$

Group like terms.

$$= 3s^2 + 2s^2 + s - 4s - 4c + 6c - 5cs + 3cs - 5c^2 + 7c^2$$

Combine like terms.

$$= 5s^2 - 3s + 2c - 2cs + 2c^2$$

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