

$3x + 2y + 7x - 5y$ $10x - 3y$	$3i + 2 + 7i - 5$ $10i - 3$ $-3 + 10i$ <p style="text-align: right;">$* a + bi$</p>
$(5x + 7y) - (2x + y)$ $5x + 7y - 2x - y$ $3x + 6y$	$(5i + 7) - (2i + 1)$ $5i + 7 - 2i - 1$ $3i + 6$ $* 6 + 3i$
$8(3x - 7)$ $24x - 56$	$8(3i - 7)$ $24i - 56$ $-56 + 24i$
$(x + 2)(x - 5)$ <p>"FOIL"</p> $x^2 - 5x + 2x - 10$ $x^2 - 3x - 10$	$(i + 2)(i - 5)$ $i^2 - 5i + 2i - 10$ $i^2 - 3i - 10$ $-3i - 11$
<p>* Split the fraction</p> $\frac{3x+5}{7}$ $\frac{3x}{7} + \frac{5}{7}$ <p>$a + bi$</p>	$\frac{3i+5}{7}$ $\frac{3i}{7} + \frac{5}{7}$ $-11 - 3i$ $\frac{5}{7} + \frac{3i}{7}$
$\frac{2x+1}{3x}$ $\frac{2x}{3x} + \frac{1}{3x}$ $\frac{2}{3} + \frac{1}{3x}$	$\frac{2i+1}{3i}$ $\frac{2i}{3i} + \frac{1}{3i}$ $\frac{2}{3} + \frac{1}{3i}$

$$(x+2)(x-2)$$

$$x^2 - \cancel{2x} + \cancel{2x} - 4$$

$$x^2 - 4$$

$$(x+3)(x-3)$$

$$x^2 - 9$$

$$* (2+3i)(2-3i)$$

$$4 - \cancel{6i} + \cancel{6i} - 9(\cancel{-1})$$

$$4 + 9 = 13$$

$$4 - 9i^2$$

$$4 - 9(-1)$$

$$4$$

$$* (1+5i)(1-5i)$$

$$\frac{3x+5}{7}$$

$$z^2 - 5z + 2z - 10$$

$$\begin{array}{r} z^2 - 3z - 10 \\ -1 - 3z - 10 \\ \hline -3z - 11 \\ \hline -11 - 3z \end{array}$$

$$\frac{3i+5}{7}$$

$$z^2 - 3z - 10$$

$$-1 - 3z - 10$$

$$z^2 = -1$$

$$z^2 - 5z + 2z - 10$$

$$z^2 - 3z - 10$$

$$-1 - 3z - 10$$

$$-11 - 3z$$

$$z^2 = -1$$

