Exercise 2G

Question 35:

$\frac{1}{3}x^2 - 2x - 9$

$= \frac{1}{3}x^2 - 3x + x - 9$
$= x\left(\frac{x}{3} - 3\right) + (x - 9)$
$= \frac{x}{3}(x - 9) + (x - 9)$
$= (x - 9)\left(\frac{x}{3} + 1\right)$
$= (x - 9)\frac{(x + 3)}{3} = \frac{1}{3}(x - 9)(x + 3).$

Question 36:

$x^2 - 2x + \frac{7}{16}$

$= \frac{1}{16}\left(16x^2 - 32x + 7\right)$
$= \frac{1}{16}\left(16x^2 - 4x - 28x + 7\right)$
$= \frac{1}{16}\left[4x(4x - 1) - 7(4x - 1)\right]$
$= \frac{1}{16}(4x - 1)(4x - 7).$

Question 37:

$\sqrt{2}x^2 + 3x + \sqrt{2}$

$= \sqrt{2}x^2 + x + 2x + \sqrt{2}$
$= x\left(\sqrt{2}x + 1\right) + \sqrt{2}\left(\sqrt{2}x + 1\right)$
$= \left(\sqrt{2}x + 1\right)\left(x + \sqrt{2}\right).$

Question 38:

$\sqrt{5}x^2 + 2x - 3\sqrt{5}$

$= \sqrt{5}x^2 + 5x - 3x - 3\sqrt{5}$
$= \sqrt{5}x\left(x + \sqrt{5}\right) - 3\left(x + \sqrt{5}\right)$
$= \left(\sqrt{5}x - 3\right)\left(x + \sqrt{5}\right).$

********** END **********