

Name: ANSWER KEY

Score: \_\_\_\_\_

Express as a polynomial (expand the indicated product):

$$(t^2 + 2t - 5)(3t^2 - t + 2) = \boxed{3t^4 + 5t^3 - 15t^2 + 9t - 10}$$

$$\begin{array}{r}
 t^2 + 2t - 5 \\
 3t^2 - t + 2 \\
 \hline
 2t^2 + 4t - 10 \\
 -t^3 - 2t^2 + 5t \\
 3t^4 + 6t^3 - 15t^2 \\
 \hline
 3t^4 + 5t^3 - 15t^2 + 9t - 10
 \end{array}$$

Can also be worked by employing the distributive law:

$$t^2(3t^2 - t + 2) + 2t(3t^2 - t + 2) - 5(3t^2 - t + 2) = 3t^4 - \underline{t^3} + \underline{2t^2} + \underline{6t^3} - \underline{2t^2} + \underline{4t} - \underline{15t^2} + \underline{5t} - 10$$

$$\text{or } (t^2 + 2t - 5)3t^2 + (t^2 + 2t - 5)(-t) + (t^2 + 2t - 5)2$$