

$$3s^2 + \frac{101}{6}s - \frac{73}{9}$$

$$3 \left[s^2 + \frac{101}{(3)(6)}s - \frac{7.3}{(3)(9)} \right]$$

$$3 \left[s + \frac{1}{2} \textcircled{ } \right]^2 - \frac{7.3}{(3)(9)} - \textcircled{ }$$

\uparrow
 $\frac{101}{(3)(6)}$

\uparrow
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Completing the Square!

$$\underline{3s + 17}$$

$$5s^2 - 7s + 41$$

$$\leftarrow -\frac{7}{5} \cdot \frac{1}{2} = -\frac{7}{10}$$

$$\underline{5[s + (-\frac{7}{10})]^2 + \frac{41}{5}(-\frac{7}{10})^2}$$

$$\frac{s}{3(s - \frac{7}{10} + \frac{7}{10}) + 17}{5[s - \frac{7}{10}]^2 + \frac{41}{5} - \frac{7}{10}^2}$$

α^2

Replace s with $s - \frac{7}{10}$

$$\frac{3s + 3 \cdot \frac{7}{10} + 17}{5(s^2 + \alpha^2)} \rightarrow \frac{\frac{3}{5}s}{s^2 + \alpha^2} + \frac{\frac{21}{10} + \frac{17}{5}}{5} \cdot \frac{1}{s^2 + \alpha^2}$$