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In[1]:= f = Sqrt[a x^2 + b x + c]
Out[1]=  $\sqrt{c + b x + a x^2}$ 

In[2]:= f1 = Sqrt[a + b u + c u^2]
Out[2]=  $\sqrt{a + b u + c u^2}$ 

In[3]:= g = Series[f1, {u, 0, 2}]
Out[3]= 
$$\sqrt{a} + \frac{b u}{2 \sqrt{a}} + \frac{(-b^2 + 4 a c) u^2}{8 a^{3/2}} + O[u]^3$$


In[4]:= xg = x Normal[g]
Out[4]= 
$$\left( \sqrt{a} + \frac{b u}{2 \sqrt{a}} + \frac{(-b^2 + 4 a c) u^2}{8 a^{3/2}} \right) x$$


In[5]:= xg1 = Expand[xg /. {u -> (1/x)}]
Out[5]= 
$$\frac{b}{2 \sqrt{a}} - \frac{b^2}{8 a^{3/2} x} + \frac{c}{2 \sqrt{a} x} + \sqrt{a} x$$


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