

$$\text{In[1]:= } \text{Apart}\left[\frac{x^5 + 7x + 5}{(x+2)^2 (x^2 + 3x + 2)}\right]$$

$$\text{Out[1]= } -7 + x - \frac{3}{1+x} + \frac{41}{(2+x)^3} - \frac{46}{(2+x)^2} + \frac{34}{2+x}$$

$$\text{In[4]:= } \text{Together}\left[x + \frac{1}{(x+1)^2} + \frac{x}{3x^2 + 5x + 2}\right]$$

$$\text{Out[4]= } \frac{2 + 6x + 8x^2 + 8x^3 + 3x^4}{(1+x)^2 (2+3x)}$$

$$\text{In[5]:= } \text{Cancel}\left[\frac{x^2 - 1}{x^3 + 1}\right]$$

$$\text{Out[5]= } \frac{-1+x}{1-x+x^2}$$