Write out the sums in 7.16 explicitly

$$a_0 s(s-1)x^{s-2} + a_1(s+1)s\,x^{s-1} + a_2(s+2)(s+1)x^s + \cdots a_r(r+s)(r+s-1)x^{r+s-2} \cdots +$$

$$+ a_0 x^s + \cdots a_{r-2}x^{r+s-2} \cdots = 0.$$

x^{s-2} x^{s-1} x^{r+s-2}

Make coeffiet of each power of x zero.

$$a_0 s(s-1) = 0. \qquad \boxed{7.17}$$

$$a_1(s+1)s = 0 \qquad \boxed{7.19}$$

x^{r+s-2}; but choosi $s = 0$

$$a_r r(r-1) = -a_{r-2} \qquad \boxed{7.20}$$

$$a_r = \frac{-a_{r-2}}{r(r-1)} \qquad \boxed{7.21}$$