Associated Legendre polynomials

Verify that

$$(1 - x^2)\frac{d^2}{dx^2}P_l^m(x) - 2x\frac{d}{dx}P_l^m(x) + \left[l(l+1) - \frac{m^2}{1-x^2}\right]P_l^m(x) = 0 \tag{1}$$

for selected associated Legendre polynomials $P_l^m(x)$.