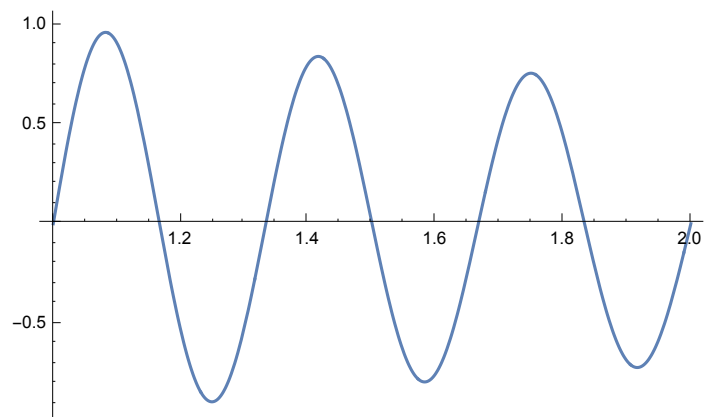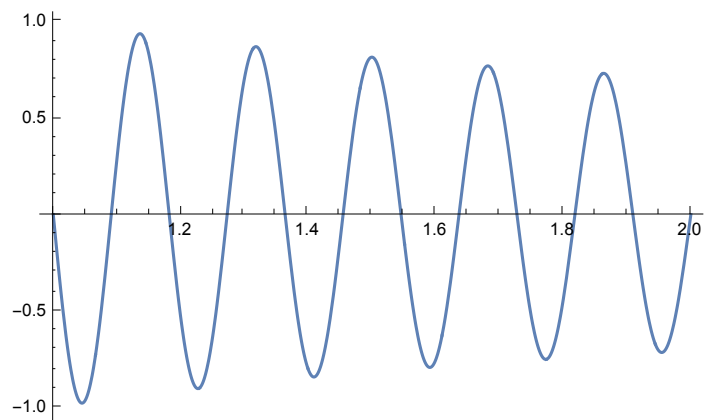n = 6;
Plot[1 / Sqrt[x] * Sin[n * Pi * x], {x, 1, 2}]



n = 11;
Plot[1 / Sqrt[x] * Sin[n * Pi * x], {x, 1, 2}]



n = 16;
Plot[1 / Sqrt[x] * Sin[n * Pi * x], {x, 1, 2}]