Rearrange the terms so that like radicals are next to each other. Then add those like terms.

$7\sqrt{6} + \sqrt{7} + 7\sqrt{6} + \sqrt{7} = 7\sqrt{6} + 7\sqrt{6} + \sqrt{7} + \sqrt{7}$

$= (7+7)\sqrt{6} + (1+1)\sqrt{7} = 14\sqrt{6} + 2\sqrt{7}$