

(p.32) 発展 練習 1

$$(1) \quad \sqrt{7+2\sqrt{10}} = \sqrt{(5+2)+2\sqrt{5\cdot 2}} \\ = \sqrt{5} + \sqrt{2}$$

$$(2) \quad \sqrt{12-6\sqrt{3}} = \sqrt{12-2\sqrt{27}} \\ = \sqrt{(9+3)-2\sqrt{9\cdot 3}} \\ = \sqrt{9} - \sqrt{3} = 3 - \sqrt{3}$$

$$(3) \quad \sqrt{3+\sqrt{5}} = \sqrt{\frac{6+2\sqrt{5}}{2}} = \frac{\sqrt{6+2\sqrt{5}}}{\sqrt{2}} \\ = \frac{\sqrt{(5+1)+2\sqrt{5\cdot 1}}}{\sqrt{2}} \\ = \frac{\sqrt{5}+1}{\sqrt{2}} = \frac{\sqrt{10}+\sqrt{2}}{2}$$