＜中 3 分野　計算プリントNo.15　解答＞ 根号の計算⑤

氏名（　　）　点数＿＿＿＿＿＿

(1) $(\sqrt{3}-3)(\sqrt{3}-5)$
$=(\sqrt{3})^2+(-3-5)\sqrt{3}+(-3)\times(-5)$
$=3-8\sqrt{3}+15$
$=\underline{18-8\sqrt{3}}$

(2) $(\sqrt{5}-2)(\sqrt{5}+3)$
$=(\sqrt{5})^2+(-2+3)\sqrt{5}+(-2)\times 3$
$=5+\sqrt{5}-6$
$=\underline{-1+\sqrt{5}}$

(3) $(\sqrt{3}-2\sqrt{5})(\sqrt{3}-\sqrt{5})$
$=(\sqrt{3})^2+(-2\sqrt{5}-\sqrt{5})\sqrt{3}+(-2\sqrt{5})\times(-\sqrt{5})$
$=3-3\sqrt{5}\times\sqrt{3}+10$
$=\underline{13-3\sqrt{15}}$

(4) $(\sqrt{2}-3\sqrt{3})(\sqrt{2}+\sqrt{3})$
$=(\sqrt{2})^2+(-3\sqrt{3}+\sqrt{3})\sqrt{2}+(-3\sqrt{3})\times\sqrt{3}$
$=2-2\sqrt{3}\times\sqrt{2}-9$
$=\underline{-7-2\sqrt{6}}$

(5) $(\sqrt{6}+\sqrt{2})^2$
$=(\sqrt{6})^2+2\times\sqrt{6}\times\sqrt{2}+(\sqrt{2})^2$
$=6+2\sqrt{12}+2$
$=\underline{8+4\sqrt{3}}$

(6) $(\sqrt{5}-\sqrt{3})^2$
$=(\sqrt{5})^2-2\times\sqrt{5}\times\sqrt{3}+(\sqrt{3})^2$
$=5-2\sqrt{15}+3$
$=\underline{8-2\sqrt{15}}$

(7) $(2\sqrt{3}+3)^2$
$=(2\sqrt{3})^2+2\times 3\times 2\sqrt{3}+3^2$
$=12+12\sqrt{3}+9$
$=\underline{21+12\sqrt{3}}$

(8) $(\sqrt{5}-\sqrt{2})(\sqrt{5}+\sqrt{2})$
$=(\sqrt{5})^2-(\sqrt{2})^2$
$=5-2$
$=\underline{3}$

(9) $(2\sqrt{3}-\sqrt{7})(2\sqrt{3}+\sqrt{7})$
$=(2\sqrt{3})^2-(\sqrt{7})^2$
$=12-7$
$=\underline{5}$

(10) $(4\sqrt{2}-6)(4\sqrt{2}+6)$
$=(4\sqrt{2})^2-6^2$
$=32-36$
$=\underline{-4}$