

1

次の数の分母を有理化しなさい。

(1)  $\frac{4}{3+\sqrt{5}}$

(2)  $\frac{3\sqrt{2}+\sqrt{3}}{3\sqrt{2}-\sqrt{3}}$

2

次の計算をしなさい。

(1)  $(\sqrt{3}-\sqrt{2})^2+(\sqrt{6}+2)^2$

(2)  $(\sqrt{2}+1)^2+(\sqrt{3}+\sqrt{2})(\sqrt{3}-\sqrt{2})$

(3)  $(\sqrt{3}-\sqrt{2})^2-(\sqrt{7}-\sqrt{3})(\sqrt{7}+\sqrt{3})$

(4)  $\frac{\sqrt{27}+\sqrt{6}}{\sqrt{2}}-\frac{8-\sqrt{12}}{\sqrt{6}}-\frac{3+\sqrt{6}}{\sqrt{3}}$

3

次の計算をしなさい。

(1)  $(5+\sqrt{2})^2-(\sqrt{2}-5)^2$

(2)  $(\sqrt{3}+2+\sqrt{6})^2-(\sqrt{3}-2+\sqrt{6})^2$

(3)  $(\sqrt{2}-\sqrt{6}-\sqrt{3})(\sqrt{2}-\sqrt{6}+\sqrt{3})$

(4)  $(\sqrt{3}-\sqrt{2})(5+\sqrt{6})(\sqrt{2}+\sqrt{3})(-5+\sqrt{6})$