1724. $\int \dfrac{x^3}{3+x}\, dx.$ **1725.** $\int \dfrac{(1+x)^2}{1+x^2}\, dx.$

1726. $\int \dfrac{(2-x)^2}{2-x^2}\, dx.$ **1727.** $\int \dfrac{x^2}{(1-x)^{100}}\, dx.$

1728. $\int \dfrac{x^5}{x+1}\, dx.$

1729. $\int \dfrac{dx}{\sqrt{x+1}+\sqrt{x-1}}.$

1730. $\int x\sqrt{2-5x}\, dx.$

Указание. $x = -\dfrac{1}{5}(2-5x)+\dfrac{2}{5}.$

1731. $\int \dfrac{x\, dx}{\sqrt[3]{1-3x}}.$

1732. $\int x^3\sqrt[3]{1+x^2}\, dx.$

1733. $\int \dfrac{dx}{(x-1)(x+3)}.$

Указание $1 = \dfrac{1}{4}[(x+3)-(x-1)].$

1734. $\int \dfrac{dx}{x^2+x-2}.$ **1735.** $\int \dfrac{dx}{(x^2+1)(x^2+2)}.$

1736. $\int \dfrac{dx}{(x^2-2)(x^2+3)}.$

1737. $\int \dfrac{x\, dx}{(x+2)(x+3)}.$ **1738.** $\int \dfrac{x\, dx}{x^4+3x^2+2}.$

1739. $\int \dfrac{dx}{(x+a)^2(x+b)^2}\quad (a\neq b).$

1740. $\int \dfrac{dx}{(x^2+a^2)(x^2+b^2)}\quad (a^2\neq b^2).$

1741. $\int \sin^2 x\, dx.$

1742. $\int \cos^2 x\, dx.$ **1743.** $\int \sin x \sin(x+\alpha)\, dx.$

1744. $\int \sin 3x \cdot \sin 5x\, dx.$

1745. $\int \cos\dfrac{x}{2}\cdot\cos\dfrac{x}{3}\, dx.$

1746. $\int \sin\left(2x-\dfrac{\pi}{6}\right)\cos\left(3x+\dfrac{\pi}{6}\right)\, dx.$