№3. $\int \frac{2x-8}{\sqrt{1-x-x^2}}dx = -\int \frac{8-2x}{\sqrt{1-x-x^2}}dx = -\int \frac{9-1-2x}{\sqrt{1-x-x^2}}dx =$

$= -9\int \frac{dx}{\sqrt{1-x-x^2}} - \int \frac{d(1-x-x^2)}{\sqrt{1-x-x^2}} = -9\int \frac{dx}{\sqrt{\frac{5}{4}-(x-\frac{1}{2})^2}} - 2\sqrt{1-x-x^2} =$

$= -9\arcsin \frac{x-\frac{1}{2}}{\frac{\sqrt{5}}{2}} - 2\sqrt{1-x-x^2} + C = -9\arcsin \frac{2x-1}{\sqrt{5}} - 2\sqrt{1-x-x^2} + C$

Проверка:

$$\left(-9\arcsin\frac{2x-1}{\sqrt5}-2\sqrt{1-x-x^2}\right)' = \frac{-9}{\sqrt{1-\frac{4x^2-4x+1}{5}}}\cdot\frac{2}{\sqrt5}-\frac{-1-2x}{\sqrt{1-x-x^2}} =$$

$$=\frac{-9}{\sqrt{1-x-x^2}}+\frac{2x+1}{\sqrt{1-x-x^2}}=\frac{2x-8}{\sqrt{1-x-x^2}}$$

Ответ: $-9\arcsin\frac{2x-1}{\sqrt5}-2\sqrt{1-x-x^2}+C.$