

$$\int \frac{5}{3x^2+2} dx =$$

INT-S1-055

$$= 5 \int \frac{1}{2\left(\frac{3}{2}x^2+1\right)} dx =$$

$$= \frac{5}{2} \int \frac{1}{\left(\frac{\sqrt{3}}{\sqrt{2}}x\right)^2+1} dx =$$

SOSTITUZIONE $\frac{\sqrt{3}}{\sqrt{2}}x = z$

$$x = \frac{\sqrt{2}}{\sqrt{3}}z$$

$$x' = \frac{dx}{dz} = \frac{\sqrt{2}}{\sqrt{3}}$$

$$dx = \frac{\sqrt{2}}{\sqrt{3}} dz$$

$$= \frac{5}{2} \int \frac{1}{z^2+1} \frac{\sqrt{2}}{\sqrt{3}} dz =$$

$$= \frac{5\sqrt{2}}{2\sqrt{3}} \operatorname{arctg} z + k =$$

$$= \boxed{\frac{5\sqrt{2}}{2\sqrt{3}} \operatorname{arctg} \frac{\sqrt{3}}{\sqrt{2}}x + k}$$