

حدد الدوال الأصلية في كل حالة من الحالات التالية:

$$f(x) = x^2 - x + 1 \quad .1$$

$$f(x) = \frac{1}{\sqrt{x}} \quad .2$$

$$f(x) = \frac{\cos x}{\sin^3 x} \quad .3$$

$$f(x) = \cos(4 - 3x) \quad .4$$

$$f(x) = \frac{1}{(3x+2)^2} \quad .5$$

$$f(x) = x^3 \sqrt{x} \quad .6$$

$$f(x) = 3\cos(2x) \quad .7$$

$$f(x) = 3\sin\left(\frac{x}{2}\right) \quad .8$$

$$f(x) = x^4 \cos(x^5) \quad .9$$

$$f(x) = \frac{\tan^2 x}{\cos^2 x} \quad .10$$

$$f(x) = 3\sin x \cos x \quad .11$$

$$f(x) = \sqrt[5]{x} \quad .12$$

الحلول:

$$F(x) = \frac{x^3}{3} - \frac{x^2}{2} + x + c^{te} \quad .1$$

$$F(x) = 2\sqrt{x} + c^{te} \quad .2$$

$$F(x) = \frac{-1}{2\sin^2 x} + c^{te} \quad .3$$

$$F(x) = -\frac{1}{3}\sin(4 - 3x) + c^{te} \quad .4$$

$$F(x) = -\frac{1}{3} \frac{1}{(3x+2)} + c^{te} \quad .5$$

$$F(x) = \frac{3}{7}x^{\frac{7}{3}} + c^{te} \quad .6$$

$$F(x) = \frac{3}{2}\sin(2x) + c^{te} \quad .7$$

$$F(x) = -6\cos\left(\frac{x}{2}\right) + c^{te} \quad .8$$

$$F(x) = \frac{1}{5}\sin(x^5) + c^{te} \quad .9$$

$$F(x) = \frac{\tan^3 x}{3} + c^{te} \quad .10$$

$$F(x) = \frac{3}{2}\sin^2 x + c^{te} \quad .11$$

$$F(x) = \frac{5}{6}x^{\frac{6}{5}} + c^{te} \quad .12$$