Crack the Code | Integrating using Partial Fractions

A $$\int \frac{6x^2 - 2x}{(x+3)(1+x^2)}\,dx = \square \ln|x + \square| - \square \arctan(x) + c$$

B $$\int \frac{4x^2 + 9x + 4}{x + x^3}\,dx = \square \ln|x| + \square \arctan(x) + c$$

C $$\int \frac{5x^2 + 10x}{(x-2)(x^2+4)}\,dx = \square \ln|x - \square| + \square \arctan\left(\frac{x}{\square}\right) + c$$

D $$\int \frac{x^2 - 12x + 9}{x^3 + 9x}\,dx = \square \ln|x| - \square \arctan\left(\frac{x}{\square}\right) + c$$

E $$\int \frac{5x^2 + 5x + 9}{(x^2+4)(x+3)}\,dx = \square \ln|x + \square| + \ln|x^2 + \square| - \frac{1}{\square} \arctan\left(\frac{x}{\square}\right) + c$$

F $$\int \frac{10x^2 - 23x + 15}{(x-3)(x^2+9)}\,dx = \square \ln|x - 3| + \square \ln|x^2 + \square| + \frac{1}{\square} \arctan\left(\frac{x}{3}\right) + c$$

G $$\int \frac{20x^2 + 16x + 3}{(x+2)(4x^2+1)}\,dx = \ln\left|(x + \square)^{\square}(\square x^2 + 1)\right| + c$$

H $$\int \frac{67x - 92}{(x+4)(3x^2+12)}\,dx = \square \ln\left|\frac{3x^2 + \square}{(x+4)^2}\right| - \frac{\square}{\square} \arctan\left(\frac{x}{\square}\right) + c$$

To get the three-digit code, add together the numbers in the boxes.