Two Class Drills on Indefinite Integrals

Class Drill 1: Good and Bad Indefinite Integral Solutions (Section 5.1)

One of these five solutions is correct. Circle it.
Each of the other solutions has at least one invalid step. Cross out all the invalid equal signs.

$$\int \frac{2}{7x^5}\,dx = \int 2(7x^{-5})dx = 2\left(\frac{7x^{-4}}{-4}\right) + C = -\frac{7x^{-4}}{2} + C = -\frac{7}{2(x^4)} + C = -\frac{7}{2x^4} + C$$

$$\int \frac{2}{7x^5}\,dx = \int \frac{2x^{-5}}{7}\,dx = \frac{2x^{-4}}{7(-4)} + C = \frac{1}{7(-4)(2x^4)} + C = -\frac{1}{56x^4} + C$$

$$\int \frac{2}{7x^5}\,dx = \int \frac{2x^{-5}}{7}\,dx = \frac{2x^{-4}}{7(-4)} + C = -\frac{x^{-4}}{7(2)} + C = -\frac{1}{14x^4} + C$$

$$\int \frac{2}{7x^5}\,dx = \int 2(7x^{-5})dx = 2\left(\frac{7x^{-4}}{-4}\right) + C = -\frac{7x^{-4}}{2} + C = -\frac{1}{2(7x^4)} + C = -\frac{1}{14x^4} + C$$

$$\int \frac{2}{7x^5}\,dx = \int \frac{2x^{-5}}{7}\,dx = \frac{2x^{-6}}{7(-6)} + C = -\frac{x^{-6}}{7(3)} + C = -\frac{1}{21x^6} + C$$

One of these four solutions is correct. Circle it.
Each of the other solutions has at least one invalid step. Cross out all the invalid equal signs.

$$\int x(x^2+1)dx = \frac{x^2}{2}\left(\frac{x^3}{3} + 0\right) + C = \frac{x^5}{6} + C$$

$$\int x(x^2+1)dx = \frac{x^2}{2}\left(\frac{x^3}{3} + x\right) + C = \frac{x^5}{6} + \frac{x^3}{2} + C$$

$$\int x(x^2+1)dx = \int x^3 + xdx = \frac{x^4}{4} + 1 + C$$

$$\int x(x^2+1)dx = \int x^3 + xdx = \frac{x^4}{4} + \frac{x^2}{2} + C$$

Class Drill 2: The Substitution Method (Section 5.2)

Use the Substitution Method to find these Definite Integrals.

$(A) \int \sqrt{1+x^4}(4x^3)dx$

$(B) \int e^{(x^3)}(3x^2)dx$

$(C) \int \frac{1}{(5x-4)^8}dx$