“Calculus” 2nd ed. by Jon Rogawski, section 7.2 (pp. 411-412)

1, 3, 5, 7, 9, 11, 15, 17, 19, 25, 39 (optional), 47, 51

Added Oct. 2, 2012: Jacob noticed that the book’s solution to #25 is wrong!
[They replaced \( u \) by \( x \) instead of by \( 3x + 2 \)]

According to Maple, the answer is:

\[
\frac{1}{12} \cos (3x + 2)^3 \sin (3x + 2) + \frac{1}{8} \cos (3x + 2) \sin (3x + 2) + \frac{3}{8} x + \frac{1}{4}
\]

But Maple does not do \(+C\) so the answer is:

\[
\frac{1}{12} \cos (3x + 2)^3 \sin (3x + 2) + \frac{1}{8} \cos (3x + 2) \sin (3x + 2) + \frac{3}{8} x + \frac{1}{4} + C
\]

But, since \(+C\) means “plus an arbitrary constant”, we can replace \(1/4 + C\) by \(C\) and get an even better answer:

\[
\frac{1}{12} \cos (3x + 2)^3 \sin (3x + 2) + \frac{1}{8} \cos (3x + 2) \sin (3x + 2) + \frac{3}{8} x + C
\]