8   Math101 answers

8.1 The answers are:

$$x\sin(x) + \cos(x) + c, \qquad \frac{1}{2}x^2\ln(x) - \frac{1}{4}x^2 + c, \qquad (x-1)e^x + c$$

8.2 The answers are:

$$\frac{1}{2}\sin(2x) + c, \qquad -\frac{(1-x)^3}{3} + c, \qquad \frac{1}{2}e^{2x-3} + c.$$

8.3 The answers are:

$$0, \qquad 2e^{-1} - 1, \qquad 2\ln(2) - \frac{3}{4}.$$

8.4 The answers are:

$$-\frac{1}{6}, \qquad \frac{e^4 - 1}{2}, \qquad \ln(5).$$

8.5 The answers are:

$$-(x+1)\cos(x) + \sin(x) + c, \qquad 2e^6.$$

8.6 The answers are:

$$\frac{\sqrt{2}}{6}, \qquad \frac{1}{6}.$$

8.7 The answers are:

$$e^x(x^2 - 2x + 2) + c, \qquad \pi^2 - 4.$$

8.8 The answers are:

$$\sqrt{2x-1} + c, \qquad \frac{\sqrt{2}}{2}$$

8.9 The answer is:

$$0.$$