

HW 2.5 cont.

$$\textcircled{6} 2^{x+1} = 3^{8x-3}$$

$$(x+1)\ln 2 = (8x-3)\ln 3$$

$$x\ln 2 - 8x\ln 3 = -\ln 2 - 3\ln 3$$

$$x = \frac{-\ln 2 - 3\ln 3}{\ln 2 - 8\ln 3}$$

$$\textcircled{7} (x+3)(2x-7) = 2x(x+1)$$
$$2x^2 - x - 21 = 2x^2 + 2x$$

$$-21 = 3x$$

$$-7 = x$$

$$\textcircled{8} \ln \frac{2x-4}{3} = 6$$

$$e^6 = \frac{2x-4}{3}$$

$$\frac{3e^6 + 4}{2} = x$$

$$\textcircled{9} 4^{3x} = 3^{x+9}$$

$$3x\ln 4 = (x+9)\ln 3$$

$$3x\ln 4 - x\ln 3 = 9\ln 3$$

$$x = \frac{9\ln 3}{3\ln 4 - \ln 3}$$