

เฉลยแบบฝึกหัด 15.1

1.1

$$x(t) = e^{-t}[A \sin(2.83t) + B \cos(2.83t)]$$

$$y(t) = \frac{1}{3}[e^{-t}A(2.83) \cos(2.83t) - e^{-t}B(2.83) \sin(2.83t) - e^{-t}A \sin(2.83t) - e^{-t}B \cos(2.83t)] \\ + \frac{2}{3}[e^{-t}A \sin(2.83t) + e^{-t}B \cos(2.83t)]$$

1.2

$$x(t) = c_1 e^{3.45t} + c_2 e^{-1.45t}$$

$$y(t) = \frac{1}{3}[c_1 e^{3.45t} + c_2 e^{-1.45t} - 3.45c_1 e^{3.45t} + 1.45c_2 e^{-1.45t}]$$

แทนค่า $c_1 = -1.45$ $c_2 = 3.45$ ได้ผลเฉลยเฉพาะ

1.3 $x(t) = e^{2t} + 3e^{-t}$, $y(t) = 2e^{2t} - e^{-t}$

1.4 $x(t) = 3 \sin(3t) - \cos(3t)$, $y(t) = -\sin(3t) + \cos(3t)$

2.1 $x(0.03) = 3.751416$ $y(0.03) = 0.950132$

2.2 $x(0.03) = 1.69693$ $y(0.03) = 4.00604$

2.3 $x(0.03) = 3.972105$ $y(0.03) = 1.152117$

2.4 $x(0.03) = -0.7176926$ $y(0.03) = 0.9070528$