

Lesson 2.4 Answers

$$\#67) \ln e^2 = \boxed{2}$$

$$\#69) e^{\ln 1.8} = \boxed{1.8}$$

$$\#68) -\ln e = \boxed{-1}$$

$$\#70) 7 \ln e^0 = 7 \ln 1 = \boxed{0}$$

$$\#71) \text{Domain } (1, \infty), \text{ Range } (-\infty, \infty), \text{ x-intercept } (2, 0)$$

$$\#72) \text{Domain } (-1, \infty), \text{ Range } (-\infty, \infty), \text{ x-intercept } (0, 0)$$

$$\#73) \text{Domain } (-\infty, 0), \text{ Range } (-\infty, \infty), \text{ x-intercept } (-1, 0) \rightarrow 0 = \ln(x)$$

$$e^0 = -x$$

$$\#74) \text{Domain } (-\infty, 3), \text{ Range } (-\infty, \infty), \text{ x-intercept } (2, 0)$$

$$1 = -x$$

$$x = -1 \rightarrow (-1, 0)$$

$$\downarrow$$
$$\ln(3-x) = 0$$

$$e^0 = 3-x$$

$$1 = 3-x$$

$$x = 2 \rightarrow (2, 0)$$

75) translation 3 left

76) translation 4 right

77) translation 5 down

78) translation ~~4 up~~ ~~4 up~~

79) translation 1 right and 2 up

80) translation 2 left and 5 down

Application

$$a. f(0) = 75 - 6 \ln(0+1)$$

$$= 75 - 6 \ln 1$$

$$= 75 - 6(0)$$

$$= \boxed{75}$$

$$b. f(2) = 75 - 6 \ln(2+1)$$

$$\text{calculator} \rightarrow = 75 - 6 \ln(3)$$

$$= \boxed{68.41}$$

$$c. f(6) = 75 - 6 \ln(6+1)$$

$$= 75 - 6 \ln 7$$

$$= \boxed{63.41}$$