Solve. Round to the nearest hundredth.

$\ln(x-3) - \ln 5 = 2$

$\ln \frac{x-3}{5} = 2$

$e^2 = \frac{x-3}{5} \rightarrow x = 5 \cdot e^2 + 3$

$x = 39.95$

Solve for Q.

$Q + 3 = CQ - W$

$-3 \quad\quad -3$

$-CQ \quad\quad -CQ$

$Q - CQ = -W - 3$

$\frac{Q(1-C)}{1-C} = \frac{-W-3}{1-C}$

$Q = \frac{-W-3}{1-C}$

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

$\ln \frac{x+1}{x} = 3$

$x \cdot e^3 = \frac{x+1}{x} \cdot x$

$e^3 x = x + 1$

$-x \quad -x$

$e^3 x - x = 1$

$\frac{x(e^3-1)}{e^3-1} = \frac{1}{e^3-1}$

$x = \frac{1}{e^3-1}$

$x = 0.05$

$\ln(3x+5)^2 = 4$

$\pm\sqrt{e^4} = \sqrt{(3x+5)^2}$

$\pm\sqrt{e^4} = 3x + 5$

$\frac{+\sqrt{e^4} - 5}{3} \quad\quad \frac{-\sqrt{e^4} - 5}{3}$

$x = .80, -4.13$

these are both solutions

To check your answer with the graphing calculator you need to enter the original equation this way:

$\ln((3x+5)^2) = 4$

You can now finish hwk #21

Sec 8-6

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Problems 9, 17, 20, 22, 25, 26, 29, 62