Warm-Up Day 7

Name: McG

1. $\log_5(x) - \log_5(5) = 2$

$\log_5\left(\frac{x}{5}\right) = 2$

$5^2 = \frac{x}{5}$ $\quad x = 25 \cdot 5$

$\boxed{x = 125}$

2. $\ln x = 3$

e

$\boxed{e^3 = x}$

3. $\log_2(7) + \log_2(x-6) = \log_2(x)$

$\log_2 7(x-6) = \log_2 x$

$7x - 42 = x$

$6x = 42$ $\quad \boxed{x = 7}$

4. $\log_3(20) - \log_3(4) = \log_3(x+8)$

$\log_3\left(\frac{20}{4}\right) = \log_3(x+8)$

$x + 8 = 5$

$\boxed{x = -3}$

5. $\log_8(4x-5) = \log_8(2x+9)$

$4x - 5 = 2x + 9$

$2x = 14$

$\boxed{x = 7}$

6. $\ln(x) + \ln(4) = 2$

$\ln_e(4x) = 2$

$e^2 = 4x$

$\boxed{\frac{e^2}{4} = x}$