Warm-Up

Name: _Mc G_

1. $\log_4(3x - 4) = \log_4(x + 6)$

ONE LOG/
SIDE → DROP
LOGS

→ SET
ARGUMENTS =

$3x - 4 = x + 6$

$2x = 10$

$\boxed{x = 5}$

2. $\log_5(3x + 4) = 2$

ONE
LOG ON
ONE
SIDE →
EXP. FORM

$5^2 = 3x + 4 = 25$

$3x = 21$

$\boxed{x = 7}$

3. $\log_2(10) - \log_2(5) = \log_2(x)$

CONDENSE
LEFT TO
ONE LOG →
DROP LOGS

$\log_2\left(\dfrac{10}{5}\right) = \log_2(x)$

$\boxed{2 = x}$

4. $\log_3(x) + \log_3(4) = \log_3(x + 9)$

CONDENSE
→ DROP
LOGS

$\log_3(4 \cdot x) = \log_3(x + 9)$

$4x = x + 9$

$3x = 9$

$\boxed{x = 3}$

5. $\log_6(2) + \log_6(x) = 2$

CONDENSE
LEFT TO
ONE LOG →
ONLY ONE LOG → EXP.
FORM

$\log_6(2 \cdot x) = 2$

$6^2 = 2x$

$36 = 2x$

$\boxed{x = 18}$

6. $\ln(x) - \ln(3) = 5$

CONDENSE
→ ONE
LOG
→ EXP.
FORM

$\ln\left(\dfrac{x}{3}\right) = 5$

$e^5 = \dfrac{x}{3}$

$3 \cdot e^5 = \dfrac{x}{3} \cdot 3$

$x = 3e^5$

≈ 445.2