5.3B

[9] condense into a single logarithm.

$2\log_7 x + \log_7 5$

$\log_7 x^2 + \log_7 5$

$\log_7(5x^2)$

① POWER
② PRODUCT
③ QUOTIENT

[10] CONDENSE. $\log_2 Y - 4\log_2 W$

$\log_2 Y - \log_2 W^4$

$\log_2\left(\frac{Y}{W^4}\right)$

[11] CONDENSE. $\log 21 + \log x - \frac{1}{2}\log m$

$\log 21 + \log x - \log \sqrt{m}$

$\log(21x) - \log\sqrt{m}$

$\log\left(\frac{21x}{\sqrt{m}}\right)$

SIDE NOTE
$m^{\frac{1}{2}} = \sqrt{m}$

YT [12] CONDENSE. $\log_3 7 + 3\log_3 p$

YT [13] CONDENSE. $\ln 27 - 3\ln x + \frac{1}{3}\ln y$

(12)
$\log_3 7 + \log_3 p^3$

$\log_3(7p^3)$

(13)
$\ln 27 - \ln x^3 + \ln \sqrt[3]{y}$

$\ln 27 + \ln\sqrt[3]{y} - \ln x^3$

$\ln(27\sqrt[3]{y}) - \ln x^3$

$\ln\left(\frac{27\sqrt[3]{y}}{x^3}\right)$

$y^{\frac{1}{3}} = \sqrt[3]{y}$

14 CONDENSE. $1 + \log_2 x$

Write your # as a logarithm first.

$\log_2 2 + \log_2 x$

$\log_2(2x)$

15 CONDENSE. $5 - \log_2 m$

$\log_2 32 - \log_2 m$

$\log_2\left(\frac{32}{m}\right)$