Chapter 5, Solution 55.

Let $A_1 = k$, $A_2 = k$, and $A_3 = k/(4)$

$A = A_1A_2A_3 = k^3/(4)$

$20\text{Log}_{10}A = 42$

$\text{Log}_{10}A = 2.1 \longrightarrow A = 10^{2.1} = 125.89$

$k^3 = 4A = 503.57$

$k = \sqrt[3]{503.57} = 7.956$

Thus

$$A_1 = A_2 = \mathbf{7.956}, A_3 = \mathbf{1.989}$$