7A: $3^l \cdot x^\alpha$, $2 \cdot y^\beta$, z^γ, $2^k \cdot 3$

<u>**x = 5, y = 7, z = 11:**</u> $2 \cdot 7^\beta = 11^\gamma - 1 = 10 \cdot (11^{\gamma-1} + ... + 1)$ is divisible by 5, contradiction.

<u>**x = 5, y = 11, z = 7:**</u> $2 \cdot 11^\beta = 7^\gamma - 1 = 6 \cdot (7^{\gamma-1} + ... + 1)$ is divisible by 3, contradiction.

<u>**x = 7, y = 5, z = 11:**</u> β must be odd, otherwise $3^l \cdot 7^\alpha - 1 = 2 \cdot 5^\beta - 2 = 2 \cdot (5^{2\beta'} - 1) = 2 \cdot (25^{\beta'} - 1) = 2 \cdot 24 \cdot (25^{\beta'-1} + ... + 1)$ would be divisible by 3. But then $2^k \cdot 3 = 2 \cdot 5^\beta + 2 = 2 \cdot (5^\beta + 1) = 2 \cdot 6 \cdot (5^{\beta-1} - 5^{\beta-2} + ... + 1)$, so that $2^{k-1} = 5^{\beta-1} - 5^{\beta-2} + ... + 1$ with $k-1 \geq 1$ and $5^{\beta-1} - 5^{\beta-2} + ... + 1$ odd, contradiction.

<u>**x = 7, y = 11, z = 5:**</u> $2 \cdot 11^\beta = 5^\gamma - 1 = 4 \cdot (5^{\gamma-1} + ... + 1)$ is divisible by 2^2, contradiction.

<u>**x = 11, y = 5, z = 7:**</u> $2 \cdot 5^\beta = 7^\gamma - 1 = 6 \cdot (7^{\gamma-1} + ... + 1)$ is divisible by 3, contradiction.

<u>**x = 11, y = 7, z = 5:**</u> $2 \cdot 7^\beta = 5^\gamma - 1 = 4 \cdot (5^{\gamma-1} + ... + 1)$ is divisible by 2^2, contradiction.