3A: x^{α}, $2\cdot 3^{l}$, y^{β}, $2^{k}\cdot z^{\gamma}$

x = 5, y = 7, z = 11: We may and do assume $\beta \geq 2$ and $l \geq 2$, so that $7^{\beta} = 2\cdot 3^{l} + 1$ implies that β is divisible by 3 via $(2\cdot 3 + 1)^{\beta} = 2\cdot 3^{l} + 1$ and $9\cdot M + 6\cdot\beta = 2\cdot 3^{l}$. But then $2\cdot 3^{l} = 7^{\beta} - 1 = 7^{3\beta'} - 1 = 343^{\beta'} - 1 = 342\cdot(343^{\beta'-1} + \ldots + 1)$ would be divisible by $2\cdot 3^{2}\cdot 19$, contradiction.

x = 5, y = 11, z = 7: $2\cdot 3^{l} = 11^{\beta} - 1 = 10\cdot(11^{\beta-1} + \ldots + 1)$ is divisible by 5, contradiction.

x = 7, y = 5, z = 11: $2\cdot 3^{l} = 5^{\beta} - 1 = 4\cdot(5^{\beta-1} + \ldots + 1)$ is divisible by 2^{2}, contradiction.

x = 7, y = 11, z = 5: $2\cdot 3^{l} - 2 = 7^{\alpha} - 1 = 6\cdot(7^{\alpha-1} + \ldots + 1)$ is divisible by 3, contradiction.

x = 11, y = 5, z = 7: $5^{\beta} - 3 = 11^{\alpha} - 1 = 10\cdot(11^{\alpha-1} + \ldots + 1)$ is divisible by 5, contradiction.

x = 11, y = 7, z = 5: $2^{k}\cdot 5^{\gamma} - 4 = 11^{\alpha} - 1 = 10\cdot(11^{\alpha-1} + \ldots + 1)$ is divisible by 5, contradiction.