Math 350 – Homework 4

Problem 5.1 # 6  Determine which of these integers are divisible by 3.

\begin{align*}
& a) \quad 101111110_2 \\
& b) \quad 1010000011_2 \\
& c) \quad 111000000_2 \\
& d) \quad 1011011101_2 \\
\end{align*}

Problem 5.1 # 22  An old receipt has faded. It reads 88 chickens at a total of $x4.2y$, where $x$ and $y$ are unreadable digits. How much did each chicken cost?

Problem 6.1 # 18  Show that if $n$ is odd and 3 does not divide $n$, then

\[ n^2 \equiv 1 \pmod{24}. \]

Problem 6.1 # 26  Use the Pollard $p - 1$ method to find a divisor of 689.