

**\*\*SHOW ALL WORK!\*\***

1. Convert  $00101110_2$  to Decimal.

2. A) What is value of $30_{10}$ in Binary?          B) What does the $_{10}$ mean?	3. Convert $255_{10}$ to Binary.
---	----------------------------------

4. Perform the following Binary (Base 2) addition.

$\begin{array}{r} 01101 \\ + 10110 \\ \hline \end{array}$	$\begin{array}{r} 110010101101 \\ + 011101110100 \\ \hline \end{array}$
---	---

5. A) Count out the next 5 Binary numbers from your answer to question 2.A.	B) Convert the 5 <sup>th</sup> number back to Decimal. Is it what you expect?
---	---

6. Perform the following Hexadecimal addition.

$\begin{array}{r} 683_{16} \\ + 251_{16} \\ \hline \end{array}$	$\begin{array}{r} 2A6_{16} \\ + E97_{16} \\ \hline \end{array}$
---	---

7. Convert the result from question 3 from Binary to Hexadecimal.

8. A) Convert  $BEEF_{16}$  to Binary.

B) Now convert this result to Decimal.

--	--

9. A) What is the numerical portion of your Alpha Code? \_\_\_\_\_

B) What is it in Base 16?