1. 7 + 0 + 4 + 9 + 6 + 6 + 4 = 36
2. 00100100
3. 10110100 = 128 + 32 + 16 + 4 = 180
4. A) 100 – 89:

100 (base 2) = 01100100

89 (base 2) = 01011001 so

-89 (base 2) = 10100110 + 1 = 10100111

100 – 89 = 01100100 + 10100111 = 100001011 (forget the 1 at the start so) = 00001011 = 11

B) 129 – 100:

129 (base 2) = 10000001 (If unsigned = 129 but if signed = -1)

100 (base 2) = 01100100

-100 (base 2) = 10011011 + 1 = 10011100

129 – 100 = 10000001 + 10011100 = 100011101 = 29

C) 100 + 100:

100 (base 2) = 01100100

100 + 100 = 01100100 + 01100100= 11001000 (If unsigned = 200 but if signed = -72)

1. 1st bit (Sign) 0 = +

2nd to 8th bits (Exponent) 10000100 = 132

Rest of the bits (Mantissa) 0101 = ¼ + 1/16 = 0.25 + 0.0625 = 0.3125

Result = 1.3125 \* 2^(132-127) = 42

1. A) Positive so s = 0

B) 36 (Base 10) = 00100100 (Base 2)

C) Left 5 Places, 1.00100 \* (2^5)  
 Stored Number = 5 + 127 = 132 (Base 10) = 10000100 (Base 2)

D) Result: 01000010000100