

Math 122 In-Class Assignment 9 - Solutions

1. Convert each number into base 10.

$$(a) \quad (763052)_9 = 7(9^5) + 6(9^4) + 3(9^3) + 0(9^2) + 5(9^1) + 2(9^0) = 454943$$

$$(b) \quad (1101101)_2 = 1(2^6) + 1(2^5) + 0(2^4) + 1(2^3) + 1(2^2) + 0(2^1) + 1(2^0) = 2^6 + 2^5 + 2^3 + 2^2 + 2^0 = 109$$

2. Convert 185020 into base 12.

$$185020 = 15418(12) + 4$$

$$15418 = 1284(12) + 10$$

$$1284 = 107(12) + 0$$

$$107 = 8(12) + 11$$

$$8 = 0(12) + 8$$

So we have that $185020 = (8B0A4)_{12}$. (Recall that $B = 11$ and $A = 10$ in our digits.)