Base 10	Base 2	Base 8	Base 16
127	= 1111111	= 177	= 7F
21	= 10101	= 25	= 15
57	= 111001	= 71	= 39
171	= 10101011	= 253	= AB

Additional Problems from Class

(I reviewed the video and didn't see/hear anything about assigned problems, so these are the ones you went over (except 123, which you did in the pdf for this assignment)).

Base 10	Base 2	Base 8	Base 16
5	= 101	= 5	= 5
418	= 110100010	= 642	= 1A2
2,748	= 101010111100	= 5274	= ABC

Additional pages show the work

127
-64 2^6
63
-32 2^5
31
-16 2^4
15
-8 2^3
7
-4 2^2
3
-2 2^1
1 2^0

1st Row $127_{10} = 64+32+16+8+4+2+1$

$= 1\cdot2^6+1\cdot2^5+1\cdot2^4+1\cdot2^3+1\cdot2^2+1\cdot2^1+1\cdot2^0$

$= 1111111_2$

$1111111_2 = \underset{1}{001}\ \underset{7}{111}\ \underset{7}{111}_2 = 177_8$

$1111111_2 = \underset{7}{0111}\ \underset{F}{1111}_2 = 7F_{16}$

2nd Row $10101_2 = 2^4+2^2+2^0 = 16_{10}+4_{10}+1_{10} = 21_{10}$

$10101_2 = \underset{2}{010}\ \underset{5}{101}_2 = 25_8$

$10101_2 = \underset{1}{0001}\ \underset{5}{0101}_2 = 15_{16}$

3rd Row $7_8 = \underset{7}{111}\ \underset{1}{001}_2$

$111001_2 = \underset{3}{0011}\ \underset{9}{1001}_2 = 39_{16}$

$111001_2 = 2^5+2^4+2^3+2^0 = 32+16+8+1 = 57_{10}$

4th Row $AB_{16} = \underset{A}{1010}\ \underset{B}{1011}_2$

$10101011_2 = \underset{2}{010}\ \underset{5}{101}\ \underset{3}{011}_2 = 253_8$

$10101011_2 = 2^7+2^5+2^3+2^1+2^0 = 128+32+8+2+1 = 171_{10}$

I was also in class real time and don't remember you assigning anything - you just mentioned that you would

In-class conversions (I couldn't find anything in the video and didn't see anything where you asked us to do it except 123_2 which isn't a real number. However you went over converting the below values.)

$101_2 = 2^2 + 2^0 = 4 + 1 = 5_{10}$

$101_2 = 5_8$

$101_2 = 0101_2 = 5_{16}$

$1A2_{16} = \underset{1}{0001}\ \underset{A}{1010}\ \underset{2}{0010}_2 = 110100010_2$

$110100010_2 = \underset{6}{110}\ \underset{4}{100}\ \underset{2}{010}_2 = 642_8$

$110100010_2 = 2^8 + 2^7 + 2^5 + 2^1 = 256 + 128 + 32 + 2 = 418_{10}$

$ABC_{16} = \underset{A}{1010}\ \underset{B}{1011}\ \underset{C}{1100}_2$

$101010111100_2 = \underset{5}{101}\ \underset{2}{010}\ \underset{7}{111}\ \underset{4}{100}_2 = 5274_8$

$101010111100_2 = 2^{11} + 2^9 + 2^7 + 2^5 + 2^4 + 2^3 + 2^2$

$= 2,048 + 512 + 128 + 32 + 16 + 8 + 4$

$= 2,748_{10}$