

**Math 102
Exam #1
Spring 2009**

Show all work (and answers) on the blank paper provided. Write nothing on this paper other than your name.

Name:

1ab	20	
1cd	20	
1ef	20	
2ab	20	
2cd	20	
2ef	20	
3a	10	
3b	10	
4a	10	
4b	10	
4c	10	
5a	10	
5b	10	
6a	10	
6b	10	
6c	10	
7a	10	
7b	10	
7c	10	
7d	10	
7e	10	
8a	10	
8b	10	
8c	10	
8d	10	
8e	10	
8f	10	
9	10	
total	340	
curve		
%		

1) Convert the following into Hindu-Arabic numerals.

- a.
- b. MMCDXLIV
- c. DCCXC̄DXLIX
- d. τ ο α
- e. 'ψ 'ν 'θ ξ δ
- f. 五千六百零八

2) Convert the following Hindu-Arabic numerals into the indicated numeration system.

- a. 1,300,030 into Egyptian
- b. 1492 into Roman
- c. 588,049 into Roman
- d. 770 into Ionic Greek
- e. 93,390 into Ionic Greek
- f. 7029 into Traditional Chinese

3) Convert the following Babylonian numerals into Hindu-Arabic.

- a.
- b.

4) Convert the following Hindu-Arabic numerals into Babylonian as compactly as possible.

- a. 147
- b. 1003
- c. 12,708

5) Convert the following Mayan numerals into Hindu-Arabic.

- a.
- b.

6) Convert the following Hindu-Arabic numerals into Mayan as compactly as possible.

- a. 48
- b. 515
- c. 2009

7) Convert to base 10 (recall: A=10, B=11, C=12, D=13, E=14, F=15).

- a. 1001101₂
- b. A05B₁₂
- c. 3104₅
- d. 312.2₄
- e. 4E.C2₁₆

8) Convert the base-10 numeral to a numeral in radix form in the base indicated. No rounding should be necessary.

- a. 230 to base 6
- b. 58 to base 4
- c. 5,425 to base 16
- d. $\frac{39}{64}$ to base 8
- e. 48.72 to base 5
- f. 47.5625 to base 16

9) Convert directly to base 16:

1101010011100010101101101001111₂