

The following is only a sampling of possible exam questions. BE SURE TO REVIEW NOTES, HOMEWORK, WORKSHEETS, QUIZZES, AND THE EXTRA CREDIT ON MYMATHLAB.

1) Answer the following:

a. What is the value of the digit 7 in the number 247,189 ? a. _____

b. What is the value of the digit 4 in the number 2431_5 ? b. _____

2) Write in each number in standard form **in the given base**.

a. $(7 \times 10^5) + (6 \times 10^2) + (8 \times 10^1) + (9 \times 10^0)$ a. _____

b. $(1 \times 4^4) + (2 \times 4^3) + (0 \times 4^2) + (3 \times 4^0)$ b. _____

3) Write the number in expanded form **using powers of the indicated base**.

a. 30,732 _____

b. 452_6 _____

4) List the numbers that precede and follow the given number in the given base.

a. _____ 68_9 _____

b. _____ 10_6 _____

5) Count to 10 in **base 4**.

_____ / _____ / _____ / _____ / _____ / _____ / _____ / _____ / _____ / _____

6) Answer the following:

a. How many different numerals are needed for base 12? _____

b. What are they? _____

7) Multiply using the galley method: 963×75

9) Convert each of the following to number as indicated.

SHOW ALL WORK!

- | | | | | |
|----|-------------------|-----------------|----|-------|
| a. | 2, 012, 035 | (to Egyptian) | a. | _____ |
| b. | 1, 273 | (to Babylonian) | b. | _____ |
| c. | 6, 488 | (to Mayan) | c. | _____ |
| d. | 5, 438 | (to Chinese) | d. | _____ |
| e. | 1, 647 | (to Roman) | e. | _____ |
| f. | 142 | (to Base 3) | f. | _____ |
| g. | 298 | (to Base 5) | g. | _____ |
| h. | 2, 488 | (to Base 14) | h. | _____ |
| i. | C2D ₁₅ | (to Base 6) | i. | _____ |

10) Perform the following operations in the indicated base. DO NOT CHANGE TO BASE 10.

SHOW ALL WORK!

- | | | | |
|----|---|----|--|
| a. | $\begin{array}{r} 32_5 \\ + 43_5 \\ \hline \end{array}$ | b. | $\begin{array}{r} 6735_8 \\ + 546_8 \\ \hline \end{array}$ |
| c. | $\begin{array}{r} 31002_5 \\ - 13423_5 \\ \hline \end{array}$ | d. | $\begin{array}{r} B721_{12} \\ - 92A_{12} \\ \hline \end{array}$ |
| e. | $\begin{array}{r} 452_7 \\ \times 63_7 \\ \hline \end{array}$ | f. | $10_3 \overline{) 21012_3}$ |

Answer Key

Testname: M110 REVIEW NUMERATION

- 1) a. 7000
b. 100
- 2) a. 700,689
b. 12003₄
- 3) a. $(3 \times 10^4) + (0 \times 10^3) + (7 \times 10^2) + (3 \times 10^1) + (2 \times 10^0)$
b. $(4 \times 6^2) + (5 \times 6^1) + (2 \times 6^0)$
- 4) a. 67₉; 70₉
b. 5₆; 11₆
- 5) (1, 2, 3, 10, 11, 12, 13, 20, 21, 22)₄
- 6) a. 12
b. 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B
- 7) 72,225
- 8) a. 101,011
b. 981
c. 79,378
d. 367
e. 564
f. 101,992
g. 1,054
h. 1,149
i. 4,003
- 9) a.

b. <<| <|||
c.

d.

e. MDCXLVII
f. 12021₃
g. 2143₅
h. C9A₁₄
i. 20411₆
- 10) a. 130₅
b. 7503₈
c. 12024₅
d. A9B3₁₂
e. 42366₇
f. 2101₃ r 2₃