

EXAM: #5 MGF 1107 CHAPTER 4 NUMBER REPRESENTATION AND CALCULATION

NAME: _____

DATE: _____

SHOW YOUR WORK FOR CREDIT NO WORK = NO CREDIT

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Evaluate the expression.

1) 9^4

A) 36

B) 6561

C) 729

D) 81

1) _____

Write the Hindu-Arabic numeral in expanded form.

2) 28121

A) $(2 \times 10^4) + (8 \times 10^3) + (1 \times 10^2) + (2 \times 10^1) + (1 \times 1)$

B) $(2 \times 10^4) + (8 \times 10^3) + (1 \times 10^2)$

C) $(2 \times 10^4) + (8 \times 10^3) + (1 \times 10^2) + (2 \times 10^1)$

D) $(2 \times 10^4) + (8 \times 10^3)$

2) _____

Express the expanded form as a Hindu-Arabic numeral.

3) $(4 \times 10^6) + (6 \times 10^5) + (2 \times 10^4) + (5 \times 10^3) + (1 \times 10^2) + (4 \times 10^1) + (1 \times 1)$

A) 4,625,141

B) 23

C) 230

D) 960

3) _____

If the Babylonian numeral ∇ stands for one and the Babylonian numeral \triangleleft stands for ten, then write the Babylonian numeral as a Hindu-Arabic numeral.

4) $\triangleleft \nabla \quad \triangleleft \nabla \quad \triangleleft \nabla \quad \triangleleft \nabla$

4) _____

A) 44

B) 3300

C) 2,416,271

D) 2,200,271

Use the table below to write the Mayan numeral as a Hindu-Arabic numeral.

0	1	2	3	4
	•	••	•••	••••
5	6	7	8	9
—	•	••	•••	••••
10	11	12	13	14
==	•	••	•••	••••
15	16	17	18	19
===	•	••	•••	••••

5)



5) _____

A) 4326

B) 45,366

C) 2286

D) 18

Convert the numeral to a numeral in base ten.

6) 1101_{two}

6) _____

A) 6

B) 12

C) 13

D) 22

Use divisions to convert the base ten numeral to a numeral in the given base.

7) 532 to base nine

A) 551_{nine}

B) 561_{nine}

C) 651_{nine}

D) 648_{nine}

7) _____

Add in the indicated base.

8)

$$\begin{array}{r} 2011_{\text{three}} \\ + 1021_{\text{three}} \\ \hline \end{array}$$

A) 10122_{three}

B) 12102_{three}

C) 20102_{three}

D) 10102_{three}

8) _____

Subtract in the indicated base.

9)

$$\begin{array}{r} 721_{\text{nine}} \\ - 473_{\text{nine}} \\ \hline \end{array}$$

A) 327_{nine}

B) 237_{nine}

C) 227_{nine}

D) 238_{nine}

9) _____

Multiply in the indicated base.

10)

$$\begin{array}{r} 536_{\text{eight}} \\ \times 5_{\text{eight}} \\ \hline \end{array}$$

A) 326_{eight}

B) 3236_{eight}

C) 3226_{eight}

D) 3326_{eight}

10) _____

Divide in the indicated base.

11) $3_{\text{four}} \overline{)210_{\text{four}}}$

11) _____








A) 33_{four}

B) 303_{four}

C) 30_{four}

D) 3_{four}

Write the Egyptian numeral as a Hindu-Arabic numeral using the table below.

Hindu-Arabic Numeral	Egyptian Numeral	Description
1		Staff
10		Heel bone
100		Spiral
1000		Lotus blossom
10,000		Pointing finger
100,000		Tadpole
1,000,000		Astonished person

12)

12) _____



A) 23,223

B) 2,030,223

C) 2,003,223

D) 2,300,223

Write the Roman numeral as a Hindu-Arabic numeral.

13) MIX

13) _____

A) 910

B) 109

C) 1110

D) 1009

14) MMDCLXVI

A) 2,566

B) 2,656

C) 2,666

D) 2,565

14) _____

Use the table below to write the traditional Chinese numeral as a Hindu-Arabic numeral.

Hindu-Arabic Numerals	Traditional Chinese Numerals
1	一
2	二
3	三
4	四
5	五
6	六
7	七
8	八
9	九
10	十
100	百
1000	千

15)

二
千
六
百
三
十
七

A) 2367

B) 2637

C) 21,637

D) 261,637

15) _____

Write the Ionic Greek numeral as a Hindu-Arabic numeral using the table below.

Hindu-Arabic Numeral	Ionic Greek Numeral	Hindu-Arabic Numeral	Ionic Greek Numeral	Hindu-Arabic Numeral	Ionic Greek Numeral
1	α	20	κ	200	σ
2	β	30	λ	300	τ
3	γ	40	μ	400	υ
4	δ	50	ν	500	ϕ
5	ϵ	60	ξ	600	χ
7	ζ	70	\omicron	700	ψ
8	η	80	π	800	ω
9	θ	90	ρ		
10	ι	100	ϱ		

16) $\tau\pi\delta$

A) 482

B) 483

C) 284

D) 384

16) _____

Write the first six terms of the arithmetic sequence with the first term, a_1 , and common difference, d .

17) $a_1 = -32; d = 9$

A) -14, -23, -32, -41, -50, -59

B) -14, -5, 4, 13, 22, 31

C) 4, -5, -14, -23, -32, -41

D) -32, -23, -14, -5, 4, 13

17) _____

Find the indicated term for the arithmetic sequence with first term, a_1 , and common difference, d .

18) Find a_{15} , when $a_1 = 6$, $d = -3$

18) _____

A) -36

B) -39

C) 51

D) 48

Write the first six terms of the geometric sequence with first term, a_1 , and common ratio, r .

19) $a_1 = \frac{1}{3}$, $r = 2$

19) _____

A) $\frac{7}{3}, \frac{13}{3}, \frac{19}{3}, \frac{25}{3}, \frac{31}{3}, \frac{37}{3}$

B) $\frac{2}{3}, \frac{4}{3}, \frac{8}{3}, \frac{16}{3}, \frac{32}{3}, \frac{64}{3}$

C) $\frac{1}{3}, \frac{2}{3}, \frac{4}{3}, \frac{8}{3}, \frac{16}{3}, \frac{32}{3}$

D) $\frac{1}{3}, \frac{7}{3}, \frac{13}{3}, \frac{19}{3}, \frac{25}{3}, \frac{31}{3}$

Find the indicated term for the geometric sequence with first term, a_1 , and common ratio, r .

20) Find a_6 , when $a_1 = 17$, $r = -\frac{1}{3}$.

20) _____

A) 15

B) $-\frac{17}{243}$

C) 4

D) $\frac{17}{729}$