

Nickname: _____ No. _____ M2/ _____

Date: _____

Long Test 2 Before Midterm

Real Numbers

I. Multiple – choice: Read each statement carefully and write the letter of your answer on the space provided before each number.

___1. Which of this type of numbers are irrational nos.?

- a. surds b. recurring decimals
c. terminating decimals d. integers

___2. Which of the following is not a rational number?

- a. 0.0034267 ... b. $\sqrt[3]{27}$
c. $\frac{1}{\sqrt{121}}$ d. 0.312

___3. Which of the following is equal to 0.121212 ... ?

- a. $\frac{4}{33}$ b. $\frac{2}{15}$ c. $\frac{12}{100}$ d. $\frac{11}{90}$

___4. Which of the following is an example of a terminating decimal?

- a. 0.1212 b. 0.12121...
c. 0.1234132... d. 0.12

___5. A number 0 is classified as...

- a. whole, integer, rational, real
b. integer, rational, real
c. natural, integer, whole, rational, real
d. rational

___6. What is equivalent of 0.44444 ... in fraction?

- a. $\frac{4}{9}$ b. $\frac{44}{90}$ c. $\frac{2}{45}$ d. $\frac{40}{9}$

___7. Which of the following is an example of a surd?

- a. $\sqrt{99}$ b. $2\sqrt{100}$ c. $\sqrt[3]{27}$ d. $\frac{1}{\sqrt{9}}$

___8. The value of $\frac{5}{12}$ in decimal is a type of

- a. terminating decimal b. recurring decimal
c. non-recurring decimal d. all of the above

___9. What is equivalent of $\frac{1}{3}$?

- a. 0.3 b. 0.3333
c. 0.3333... d. 0.30

___10. What is the place value of 6 in the number 0.006 ?

- a. hundred b. hundredths
c. thousand d. thousandths

II. Solving Skills.

Solve and simplify each item. Show your solution, if possible.

A. Write the following decimals into a fraction form.

i. 0.232323 ...

ii. 0.3216

iii. 1.48

iv. 2.45555 ...

v. 0.565656 ...

B. Evaluate and choose the best answer in its simplest radical form. Show your solutions.

i. $\sqrt{18} + \sqrt{8}$

a. $\sqrt{26}$ b. $5\sqrt{2}$ c. $6\sqrt{2}$ d. 12

ii. $\sqrt{49a^8}$

a. $7a$ b. $7a^2$ c. $7a^4$ d. $7a^8$

iii. $3\sqrt{24} \times 2\sqrt{32}$

a. $48\sqrt{3}$ b. $48\sqrt{2}$
c. $96\sqrt{6}$ d. $96\sqrt{3}$

iv. $\sqrt{2}(\sqrt{6} + \sqrt{7})$

a. $\sqrt{26}$ b. $\sqrt{48}$
c. $2\sqrt{3} + \sqrt{14}$ d. $2\sqrt{6} + 2\sqrt{7}$

v. $\sqrt[3]{8} \times 2(\sqrt[3]{16})$

a. 8 b. $8\sqrt[3]{2}$ c. $4\sqrt[3]{2}$ d. $2\sqrt[3]{48}$

vi. $\frac{\sqrt[3]{8}}{\sqrt[3]{125}}$

a. $\frac{8}{125}$ b. $\frac{2}{5}$ c. 10 d. $\frac{2\sqrt{2}}{5\sqrt{5}}$

vii. $\sqrt[3]{10^3} \times \sqrt{100}$

a. 10 b. 100 c. 1000 d. 10000

ix. (2pts.) Write **0.213333 ...** in fraction form using the long method.

Step 1: Let N =

Step 2:

Step3:

Step4:

$\therefore 0.213333 ... =$ _____