

ARITHMETIC REVIEW

INTRODUCTION

Nurses administer medications orally and by injection. In order to perform this function safely, it is **MANDATORY** that the nurse possess certain basic arithmetic skills.

We highly recommend that you take this arithmetic review test as soon as possible. If there are any of these arithmetic skills which you cannot perform, obtain a basic math text or math programmed instruction manual to learn them.

An answer sheet is included on the last page so that you may check the accuracy of your responses.

Arithmetic Review: www.aaamath.com; www.aplusmath.com/worksheets/index

Martinez de Castillo and Werner Mc Cullough (2007). *Calculating Drug Dosage*. (2nd ed.) Philadelphia:

F.A. Davis Company. ISBN 8036-1532-9

Williams (2006). *Arithmetic the Easy Way*. (4th ed). ISBN 0764129139

Curren. (2006). *Dimensional Analysis for Meds*. (3rd ed). New York: Thomson Delmar Learning.

Chancellor's Office, California Community Colleges: Nursing and Allied Health Math Tutorial (CD)

FRACTIONS

1. Reduce the following fractions to lowest terms:

$$\frac{30}{100}$$

$$\frac{4}{12}$$

$$\frac{18}{45}$$

2. $\frac{2}{5} = \frac{\quad}{10} = \frac{\quad}{15} = \frac{\quad}{30}$

3. Change the following fractions to tenths. Express as fractions and decimals.

$$\frac{1}{2}$$

$$\frac{9}{15}$$

$$\frac{4}{5}$$

ARITHMETIC REVIEW - continued

4. Express the following fractions as a decimal:

$$\frac{7}{10}$$

$$\frac{176}{1000}$$

$$\frac{3}{4}$$

$$\frac{42}{1000}$$

$$\frac{42}{100}$$

$$1\frac{1}{4}$$

5. Change the following improper fractions to mixed numbers or whole numbers and reduce answer to lowest terms:

$$\frac{7}{3}$$

$$\frac{25}{5}$$

$$\frac{13}{10}$$

6. Multiply the following fractions and reduce answer to lowest terms:

$$1 \times \frac{3}{7}$$

$$\frac{1}{5} \times 45$$

$$\frac{2}{5} \times \frac{2}{3}$$

ARITHMETIC REVIEW - continued

7. Divide the following fractions and reduce answer to lowest terms:

$$\frac{3}{2} \div \frac{4}{6}$$

$$\frac{4}{8} \div \frac{1}{2}$$

$$\frac{4}{15} \div \frac{1}{3}$$

8. Change the following mixed numbers to improper fractions:

$$1 \frac{1}{3}$$

$$2 \frac{3}{4}$$

$$5 \frac{5}{7}$$

9. Divide the following fractions and reduce answer to lowest terms:

$$\frac{\frac{2}{4}}{\frac{3}{8}}$$

$$\frac{\frac{18}{10}}{\frac{3}{5}}$$

10. Which is the larger quantity?

$$\frac{2}{5} \text{ or } \frac{3}{10}$$

$$\frac{1}{100} \text{ or } \frac{1}{10}$$

$$\frac{1}{3} \text{ or } \frac{1}{2}$$

ARITHMETIC REVIEW - continued

DECIMALS

1. Write the words for these decimals:

0.4

0.04

0.004

0.040

0.044

2. Write these words as a decimal:

sixty-seven hundredths

three hundredths

three tenths

three and five tenths

sixty-seven thousandths

3. Round off the following numbers:

a. to the closest tenth: 2.42

5.78

5.74

b. to the closest whole number: 5.2

6.72

c. to the closest hundredth: 8.0378

3.5392

ARITHMETIC REVIEW - continued

4. Change the following decimals to fractions.

0.80

0.8

0.3

0.03

2.0079

5. Multiply the following decimals.

$$\begin{array}{r} 0.43 \\ \hline 17 \end{array} \quad \begin{array}{r} 1.2 \\ \hline 80 \end{array} \quad \begin{array}{r} 3.4 \\ \hline .75 \end{array} \quad \begin{array}{r} 0.043 \\ \hline 17 \end{array} \quad \begin{array}{r} 5.07 \\ \hline .8 \end{array}$$

6. Divide the following decimals. Round answers to closest thousandths if rounding is necessary.

$$.37 \overline{) 2.5}$$

$$8.3 \overline{) 209}$$

$$\frac{.960}{2.4}$$

$$\frac{4}{.77}$$

ARITHMETIC REVIEW - continued

PERCENTAGE

1. Change the following decimals to percent.

0.74
0.074
0.0074
1.074
2.74

2. Change the following percentages to decimals.

82%
8.2%
0.82%
182%

3. Change the following percentages to fractions.

3%
45%
9.7%
60%

4. The following are prices for merchandise which is discounted as indicated. How much would you pay for the item at the indicated discount?

\$30.00 @ 30% discount

\$57.95 @ 25% discount

5. Your program has a policy of reducing the score of a make-up test by 10%. What would your score be if you earned the following scores on a make-up test?

86.7%
72.9%

6. What percentage grade (rounded to the closest tenth) did you earn on the following tests? The first number is your number correct and the second is the total number possible on the test.

29/36
45/62

ARITHMETIC - Continued

ANSWERS: Arithmetic Review

FRACTIONS

1. $\frac{3}{10}$; $\frac{1}{3}$; $\frac{2}{5}$
2. $\frac{2}{5} = \frac{4}{10} = \frac{6}{15} = \frac{12}{30}$
3. $\frac{5}{10}$ (0.5); $\frac{6}{10}$ (0.6); $\frac{8}{10}$ (0.8)
4. 0.7; 0.176; 0.75; 0.042; 0.42; 1.25
5. $2\frac{1}{3}$; 5; $1\frac{3}{10}$
6. $\frac{3}{7}$; 9; $\frac{4}{15}$
7. $2\frac{1}{4}$; 1; $\frac{4}{5}$
8. $\frac{4}{3}$; $\frac{11}{4}$; $\frac{40}{7}$
9. $1\frac{1}{3}$; 3
10. $\frac{2}{5}$; $\frac{1}{10}$; $\frac{1}{2}$

DECIMALS

1. four tenths
four hundredths
four thousandths
four hundredths or forty thousandths
forty-four thousandths
2. 0.67; 0.03; 0.3; 3.5; 0.067
3. a. 2.4; 5.8; 5.7
b. 5; 7
c. 8.04; 3.54
4. $\frac{80}{100}$ or $\frac{8}{10}$; $\frac{8}{10}$; $\frac{3}{10}$; $\frac{3}{100}$; $2\frac{79}{10,000}$
5. 7.31; 96; 2.550; 0.731; 4.056
6. 6.757; 25.181; 0.4; 5.195

PERCENTAGE

1. 74%, 7.4%, 0.74%, 107.4%, 274%
2. 0.82, 0.082, 0.0082, 1.82
3. $\frac{3}{100}$, $\frac{45}{100}$, $\frac{9.7}{100}$ or $\frac{97}{1000}$, $\frac{60}{100} = \frac{6}{10}$
4. \$21.00, \$43.46
5. 78.03%, 65.61%
6. 80.6%, 72.6%

Tutorial Services Multiplication Chart for Nursing Students

x	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

Remembering 9's

What's 9×7 ? Use the 9-method! Hold out all 10 fingers, and lower 7th finger. There are 6 fingers to the left and 3 fingers on the right.

The answer is 63!
VN:14991:7/03