Medical Math

Being able to do the following would be helpful:

Fractions

a. Convert mixed numbers to improper fractions

$$4\frac{1}{4} = \frac{17}{4}$$

b. Reduce fractions to lowest terms

$$\frac{8}{12} = \frac{2}{3}$$

c. Add/Subtract fractions (only if they have a common denominator)

$$\frac{1}{2} + \frac{3}{7} = \frac{7}{14} + \frac{6}{14} = \frac{13}{14}$$

d. Multiply/Divide Fractions

$$\frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$$

e. Convert fractions into decimals

$$\frac{3}{4} = .75$$

Decimals

a. Recognize place value in a decimal number

56,408.973

Fifty-six thousand, four hundred eight and nine hundred seventy three thousandths

Ten thousands-thousands, hundreds, tens, ones **.** tenths-hundredths-thousandths

b. Add/subtract decimals

973.021 + 11.04 = 984.061

c. Multiply decimals

12.32 x 4.984 = 61.40288

d. Divide decimals

2158.75 ÷ 6.25 = 345.4

e. Convert decimals into fractions

$$.128 = \frac{128}{1000} \div \frac{8}{8} = \frac{16}{125}$$

Using Proportions

Example 1: Using Ratios—A critical care area has one nurse for every two patients.

Express this as a ratio. 1:2

Express this ratio for 3, 5, 8 nurses.

1:2 3:6 5:10 8:16

Using fractions—Express the same proportion as a fraction

$$\frac{1}{2} = \frac{3}{6} = \frac{5}{10} = \frac{8}{16}$$

Example 2: Solving proportions—If two instructors are needed for a class of eleven students, how many students can 12instructors teach?

$$\frac{\text{2 instructors}}{\text{11 students}} = \frac{\text{12 instructors}}{x \text{ students}}$$

$$2 \times x = 12 \times 11 \quad 2x = 132 \quad 2x \div 2 = 132 \div 2 \quad x = 66 \text{ students}$$

Percentages

a. Convert percentages into decimals
   17.5% = .175
b. Convert decimals into percentages
   .39 = 39%

c. Solve percentage problems

Type 1: What is 60% of 200?

Rewrite as an equation: *What is represented by y*
is is represented by =
of is represented by a multiplication symbol
write the percentage as a decimal

$y = .60 \times 200$

Solve the equation: $y = 120$

Type 2: 10 is what percentage of 160?

Rewrite as an equation: $10 = y \times 160$

Solve the equation: $\frac{10}{160} = y$ $y = .0625$ $y = 6.25\%$

Type 3: 75% of what number is 225?

Rewrite as an equation: $0.75 \times y = 225$

Solve the equation: $y = \frac{225}{.75}$ $y = 300$

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