

* Need info for #10

Name _____ Date _____ Period _____

Math Review

Scientific Notation

Write the following numbers in standard notation.

- 1) 1.98×10^5 198,000 2) 3.76×10^{-4} 0.000376 3) 1.22×10 12.2

Write the following numbers in scientific notation.

- 4) 1234.56 1.23456×10^3 5) 0.001234 1.234×10^{-3} 6) 10100 1.01×10^4

Factor Label

Use factor labeling to convert the following measurements.

7) How many inches are in 26.5 yards?

$$\frac{12 \text{ in}}{1 \text{ ft}} \times \frac{3 \text{ ft}}{1 \text{ yd}} \times 26.5 \text{ yd} = \boxed{954 \text{ in}}$$

8) If it is Sami's 18th birthday today, how many seconds old is she?

$$\frac{60 \text{ sec}}{1 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{24 \text{ hr}}{1 \text{ day}} \times \frac{365.25 \text{ days}}{1 \text{ yr}} \times 18 \text{ yr} = \boxed{568,036,800 \text{ seconds}}$$

9) During the 2012 Olympics, Usain Bolt set an Olympic record by completing the 100 m sprint in 9.63 seconds. How fast did he run in miles per hour? (There are 2.54 cm/inch and 5280 ft/mile.)

$$\frac{1 \text{ mile}}{5280 \text{ ft}} \times \frac{1 \text{ ft}}{12 \text{ in}} \times \frac{1 \text{ in}}{2.54 \text{ cm}} \times \frac{100 \text{ cm}}{1 \text{ m}} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{60 \text{ sec}}{1 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times 9.63 \text{ sec} = \boxed{23 \text{ mph}}$$

Percent

10) Calculate the percentage of male students in your chemistry class.

15%

11) Calculate the percentage of female students in your chemistry class.

12) What should your answers to 10 and 11 add up to?

100%

13) If ~~22~~³⁴% of the 1223 students at BHS are involved in extra-curriculars, how many students are NOT involved in extra-curriculars?

$$\frac{34}{100} = \frac{x}{1223}$$

416 involved

$$\begin{array}{r} 1223 \\ - 416 \\ \hline \end{array}$$

807 NOT involved

Algebra

Solve the following equations for the variable "a".

14) $\frac{a}{b} \times \frac{c}{d}$

$$\frac{ad}{d} = \frac{bc}{d}$$

$$a = \frac{bc}{d}$$

15) $\frac{ab}{c} \times \frac{xy}{z}$

$$\frac{abz}{bz} = \frac{cxy}{bz}$$

$$a = \frac{cxy}{bz}$$

16) $\frac{ab}{b} = \frac{cd}{b}$

$$a = \frac{cd}{b}$$

17) $\frac{xy}{bc} = \frac{bac}{bc}$

$$a = \frac{xy}{bc}$$

Solve the following. Round to the nearest tenth.

18) $\frac{5}{8} = \frac{25}{x}$

$$x = 40$$

19) $\frac{(4)(5)}{12} = \frac{7x}{53}$

$$x = 12.6$$

20) $(9)(31) = 5x$

$$x = 55.8$$

21) $(12)(25) = (9)(x)(13)$

$$x = 2.6$$

Solve for x, to the nearest hundredth, given a = 3, b = 5, c = 8, d = 10 and e = 2.

22) $ab = xc$

$$(3)(5) = x(8)$$

$$x = 1.88$$

23) $\frac{a}{b} = \frac{x}{c}$

$$\frac{3}{5} = \frac{x}{8}$$

$$x = 4.8$$

24) $\frac{ab}{c} = \frac{de}{x}$

$$\frac{(3)(5)}{8} = \frac{(10)(2)}{x}$$

$$x = 10.67$$

25) $ab = dx$

$$(3)(5) = (10)(x)(2)$$

$$x = 0.75$$

Metric System

26) The first letter of the metric system prefixes has been provided. Complete the rest of the prefix.

Big Kilo Hecto Deca BASE Deci Centi Milli, *Small*

28) Do you know a mnemonic device that can be used to list these prefixes? If so, what is it?

King Henry died by drinking chocolate milk.

29) Fill in the blanks with the appropriate number.

a) 1 Kilogram = 1000 grams

d) 1 meter = 10 decimeters

b) 1 Hectogram = 100 grams

e) 1 meter = 100 centimeters

c) 1 Decagram = 10 grams

f) 1 meter = 1000 millimeters