Bellwork Friday, February 14, 2014

1. Ms. Hernandez began her math class by saying:

   I'm thinking of 5 numbers such that their mean is equal to their median. If 4 of the numbers are 14, 8, 16, and 14, what is the 5th number?

   What is the 5th number Ms. Hernandez is thinking of?

   A. 13

   B. 14

   C. 15

   D. 16

   E. 18

4. Each of the variables t, w, x, y, and z represents a different *positive* real number. Given the equations below, which of the 4 variables w, x, y, and z necessarily has the greatest value?

   $1.23w = t$
   $1.01x = t$
   $0.99y = t$
   $0.23z = t$

   F. w

   G. x

   H. y

   J. z

   K. Cannot be determined from the given information

10. Each side of the smaller square in the figure below is x inches long, and each side of the larger square is c inches longer than a side of the smaller square. The area of the larger square is how many square inches greater than the area of the smaller square?

F. c^2

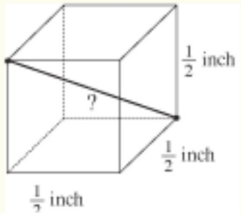
G. xc

H. $4c$

J. $(x + c)^2$

K. $2xc + c^2$

11. A cube with edges $\frac{1}{2}$ inch long is shown below. What is the length, in inches, of a diagonal that runs from one corner of the cube to the opposite corner?



Solving for length of diagonal:

$$d = \sqrt{l^2 + w^2 + h^2}$$

A. $\frac{1}{4}$

B. $\frac{3}{4}$

C. $\frac{3}{2}$

D. $\frac{\sqrt{2}}{2}$

E. $\frac{\sqrt{3}}{2}$