Problems of the Week # 4

Name: _____ Date:_____

Circle the one best answer. Justify your answer by showing all work below.

16. If a rectangular box has sides of length x, $x+4$, $x-5$ $(where\ x>5)$, the volume of the box is:

A. x^3-x^2-20x B. x^3+x^2-20x C. x^3-x^2-20

D. x^3-20 E. x^3-x-20

17. A 20-foot ladder leans against a wall so that the base of the ladder is 7 ft. from the base of the building. To find the angle, A, the ladder makes with the ground, which equation below can be used:

A. $\sin A=\frac{7}{20}$ B. $\tan A=\frac{20}{7}$ C. $\tan A=\frac{7}{20}$

D. $\cos A=\frac{7}{20}$ E. $\sin A=\frac{20}{7}$

18. An equivalent form of $\frac{2}{x+3}+\frac{1}{x-3}$ is:

A. $\frac{3x-1}{x^2-3}$ B. $\frac{3}{2x}$ C. $\frac{3}{x^2-9}$ D. $\frac{3x-3}{x^2-9}$ E. $\frac{x-1}{x^2-1}$

19. If $f(x)=2^{-x}+x-4$, then $f(-1)$ is:

A. $-1\left(2^{-x}+x-4\right)$ B. -3 C. $2^{-x}-x+4$ D. $-\frac{9}{2}$ E. -1

20. Evaluate and then write the answer in scientific notation: $\frac{4.6\times10^{5}}{2.3\times10^{-2}}$

A. 2×10^{7} B. 2×10^{3} C. 2×10^{-3} D. 2×10^{-7} E. 0.2×10^{8}