

Problems of the Week # 17

Name: _____

Date: _____

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

81. A class of 8 students had an average (arithmetic mean) test score of 76 on its first test. On the second test, all but two students received the same score as they did on the first test. One student received a 94 instead of a 72, and another received a 72 instead of a 62. What was the average score on the second test?

- A. 80 B. 78 C. 76 D. 74 E. 72

82. Two linear functions f and g are defined as: $f(x) = \frac{4}{3}x$ and $g(x) = \frac{3}{2}x + 1$.

What is the value of $g(5) - f(3)$?

- A. 2 B. 3 C. 4 D. 4.5 E. 8.5

83. Divide and simplify: $\frac{z^2 + 10z + 24}{z^2 + 11z + 28} \div \frac{z^2 + 6z}{z^2 - z - 56}$

- A. $\frac{z-8}{z}$ B. $\frac{z-8}{z^2+7z}$ C. $z-8$ D. $\frac{z}{z^2+11z+28}$ E. $\frac{z^2+z-56}{z^2+7z}$

84. The area of a square is 36. A circle is inscribed in the square. What is the area of the circle?

- A. 6 B. 36 C. 6π D. 9π E. 36π

85. What is the slope of the line through the points $(-2, 1)$ and $(-2, -3)$?

- A. -2 B. -1 C. 0 D. 1 E. undefined