

College Bound Math Problem Set #4
for the week of October 27, 2014

1. (a) Tell your mentor why this is true: $8\frac{1}{3} \times 9\frac{1}{2} = (8 + \frac{1}{3})(9 + \frac{1}{2})$

(b) What is the value of $(8 + \frac{1}{3})(9 + \frac{1}{2})$? Show your work.

2. Remembering that both 8 and 16 are powers of 2, solve the following:

(a) If $2^x = 8$, what is the value of x ? _____

(b) If $2^{x-1} = 8$, what is the value of x ? _____

(c) If $2^{2x} = 16$, what is the value of x ? _____

3. In the gray and white figure shown here, the square is 2 inches wide and 2 inches high. The circle just touches each side of the square. What is the area of the gray portion of the figure?

