SHOW YOUR WORK or EXPLAIN YOUR REASONING!!!

Problems 1-6: Use various problem-solving strategies to solve each problem.

1. The number in an unshaded square is obtained by adding the numbers connected with it from the row above. For example, \(11 = 5 + 6\). What is the value of \(x\)?

\[
\begin{array}{ccc}
5 & 6 & x \\
11 & & 7 \\
& & 60
\end{array}
\]

2. How many rectangles of any size are in the figure shown?

3. In the sequence 16, 80, 48, 64, \(A, B, C, D\), each term beyond the second term is the arithmetic mean (average) of the two previous terms. What is the value of \(D\)?

4. Today is your first day driving a city bus. When you leave downtown, you have twenty-three passengers. At the first stop, three people exit and five people get on the bus. At the second stop, eleven people exit and eight people get on the bus. At the third stop, five people exit and ten people get on. How old is the bus driver?

5. Three dice with faces numbered 1 through 6 are stacked as shown. Seven of the eighteen faces are visible, leaving eleven faces hidden on the back, on the bottom, and between dice. The total number of dots not visible in this view is ________?

6. Brian has an unlimited number of cents (pennies), nickels, and dimes. In how many different ways can he pay 15¢ for a chocolate mint? (For example, one way is 1 dime and 5 pennies.)
Problems 7-8: Determine answers given the pie chart below.

Missouri State Fall 2010

- Unclassified
- Entering Freshmen 15%
- Other Freshmen 5%
- Sophomores 17%
- Juniors 21%
- Seniors 30%

7. a) What percent of students were unclassified?

b) What percent of students were classified as either a Junior or a Senior?

8. Undergraduate enrollment at Missouri State in Fall 2010 was 17,200, how many were seniors?

Problems 9-10: The bar graph shows total sales of a product in thousands of dollars for the years 1999 through 2002.

9. a) Estimate the total sales in 1999.

b) In what years were total sales less than $240 thousand?

10. Describe the trend in total sales from 1999 to 2002.