Simplifications and word problems

1. What is the value of the following?

$$102 + 204 + 306 + 408 + 510 - 101 - 203 - 305 - 407 - 509$$

2. What is the value of the following?

$$9 + 91 + 18 + 82 + 27 + 73 + 36 + 64 + 45 + 55$$

3. What is the value of the following?

$$99 \times 372 + 372$$

4. What is the value of the following?

$$(20 \times 24 \times 28 \times 32) \div (10 \times 12 \times 14 \times 16)$$

5. What is the value of the following?

$$\begin{array}{lllll}
123+ & 123+ & 123+ & 123+ & 123+ \\
123+ & 123+ & 123+ & 123+ & 123+ \\
123+ & 123+ & 123+ & 123+ & 123+ \\
123+ & 123+ & 123+ & 123+ & 123+ \\
123+ & 123+ & 123+ & 123+ & 123
\end{array}$$

6. What is the value of the whole number N if N is 1/2 of 2/3 of 3/4 of 4/5 of 100?

7. What is the value of the whole number N if N is 1/3 of 3/5 of 5/7 of 28?

8. In the number 203,500, the last two zeroes are called *terminal zeroes*. In the result of the multiplication $30 \times 40 \times 50 \times 70$, how many terminal zeroes are there?

9. If five hats plus one scarf cost $17, and four hats plus a scarf costs $14, how much does a hat cost?

10. Winnie is selling circles and squares. Five circles plus one square cost 20 cents. Two circles plus three squares cost 21 cents. At those prices, how many cents does twelve circles plus five squares cost?

11. If 3 sticks of gum and two root beers cost $6, and 2 sticks of gum and three root beers costs $6.50, how much does a stick of gum plus a root beer cost?

12. Paul has half as many pieces of candy as Jennifer. Jennifer has half as many as Charles. Charles has 12 times as many as Susan. Susan has 4 pieces. How many pieces do Charles and Paul have together?

13. The six-digit number $63X903$ is a multiple of 27. What is the digit X?