Algebra: Write an Expression

Jorge gave 5 of his mystery books to the Book Drive. Now he has three times as many sports books as mystery books.

Write an algebraic expression to show how many sports books Jorge has now.

**Step 1:** Use words.
(mystery books minus 5) times 3

**Step 2:** Show the variable—the unknown number.
The unknown number is how many mystery books Jorge had, so it is the variable.
Use \( b \) to represent the number of mystery books Jorge had.

**Step 3:** Write the expression.
\((b - 5) \times 3\)

**Step 4:** Evaluate the expression, given \( b = 7 \).
Replace the variable with 7. Then, do the multiplication.
\[
(b - 5) \times 3 = (7 - 5) \times 3 = 2 \times 3 = 6
\]

Write an algebraic expression for each phrase. Then evaluate, given \( n = 2 \).

1. the difference of 20 and a number
   \[20 - n\]

2. 4 less than the sum of a number and 6
   \[(n + 6) - 4\]

3. the product of a number and \(-2\)
   \[n \times (-2)\]

4. the quotient of 6 and a number
   \[\frac{6}{n}\]

5. 4 more than the product of 6 and a number
   \[6n + 4\]

6. 5 less than the quotient of \(-10\) and a number
   \[\frac{-10}{n} - 5\]

7. the sum of a number and \(-6\) multiplied by 3
   \[(n + (-6)) \times 3\]

8. the product of 5 and 4 more than a number
   \[5(n + 4)\]