Lesson 9.1

Independent and Dependent Variables

Identify the independent and dependent variables. Then write an equation to represent the relationship between them.

1. Sandra has a coupon to save $3 off her next purchase at a restaurant. The cost of her meal \( c \) will be the price of the food \( p \) that she orders, minus $3.

2. An online clothing store charges $6 for shipping, no matter the price of the items. The total cost \( c \) in dollars is the price of the items ordered \( p \) plus $6 for shipping.

3. Melinda is making necklaces. She uses 12 beads for each necklace. The total number of beads \( b \) depends on the number of necklaces \( n \).

4. Tanner is 2 years younger than his brother. Tanner's age \( t \) in years is 2 less than his brother's age \( b \).

5. Byron is playing a game. He earns 10 points for each question he answers correctly. His total score \( s \) equals the number of correct answers \( a \) times 10.

6. Maria earns $45 for every lawn that she mows. Her earnings \( e \) in dollars depend on the number of lawns \( n \) that she mows. Write an equation that represents this situation.

7. Martin sells cars. He earns $100 per day, plus any commission on his sales. His daily salary \( s \) in dollars depends on the amount of commission \( c \). Write an equation to represent his daily salary.

The cost of her meal \( c \) depends on the price of her food \( p \).

dependent variable: \( c \)

independent variable: \( p \)

equation: \( c = p - 3 \)

dependent variable: \( b \)

independent variable: \( n \)

equation: \( b = 12n \)

dependent variable: \( t \)

independent variable: \( b \)

equation: \( t = b - 2 \)

dependent variable: \( s \)

independent variable: \( a \)

equation: \( s = 10a \)

\[ e = 45n \]

\[ S = 100 + C \]