Name: _____

Independent and Dependent Variables
Writing and Solving Equations

Directions: Determine the dependent and independent variables for each scenario. Then use the variables to write an equation. Finally, solve the equation using the given values.

1. David is going out for a pizza. The pizza costs $10.50 plus $1.50 for each extra topping, *x*. Write an equation to represent the total cost of the pizza, *t*.

    Dependent variable: _____

    The total cost of the pizza is _____

_____

2. Alex is going on a road trip. She travels at a rate of 65 miles per hour. Write an equation that represents the distance, *d*, that Alex could travel for a given number of hours, *h*.

    Dependent variable: _____

    Independent variable: _____

    Equation: _____

Use your equation to see how far Alex would drive in 8 hours.

    The distance Alex would drive is _____

Independent and Dependent Variables
Writing and Solving Equations

3. Chloe is buying snacks for a party. She plans on buying a cake for $17.95 and some chips for $3.49 per bag, *b*. Write an equation to represent the total cost, *t*, for Chloe's snacks.

Dependent variable: _____

Independent variable: _____

Equation: _____

Use your equation to determine the total cost if Chloe buys 6 bags of chips.

4. Ainsley is going to the movies. The movie ticket costs $9.75. Snacks, *s*, cost $4.75 each. Write an equation to represent the total cost, *t*, of Ainsley's trip to the movies.

Dependent variable: _____

Independent variable: _____

Equation: _____

Use your equation to determine Ainsley's total cost at the movies if she buys 3 snacks.

Ainsley's total cost at the movies is _____

Independent and Dependent Variables

Writing and Solving Equations

5. Oliver streams movies through a company that charges $4.99 per month and $1.99 per movie, m. Write an equation to represent the total cost, t, per month.

Dependent variable: _____

Independent variable: _____

Equation: _____

Use your equation to determine the monthly cost if Oliver watched 5 movies.

---

6. Luis' family is going on a camping trip. It costs $15.50 per day, d, and $25.00 per cabin, c. Write an equation to represent the total cost, t, of the camping trip.

Dependent variable: _____

Independent variables: _____

Equation: _____

Use your equation to determine the total cost for staying 5 days in 2 cabins.

The total cost for the trip would be _____

Independent and Dependent Variables
Writing and Solving Equations

1. Dependent variable: _____total cost (t)_____

   Independent variable: ___number of toppings (x)___

   Equation: $t = 10.50 + 1.50x$ or $t = 1.50x + 10.50$

2. Dependent variable: ___distance traveled (d)___

   Independent variable: ___number of hours (h)___

   Equation: $d = 65h$

$t = 4.99 + 1.99m$

$= 4.99 + 1.99(5)$

$= 4.99 + 9.95$

$= 14.94$

Oliver's total cost this month would be ___$14.94___

$t = 15.50d + 25c$

$= 15.50(5) + 25(2)$

$= 77.50 + 50$

$= 127.50$

The total cost for the trip would be ___$127.50___

KH