NAME _____

Lesson 3.4 Using Variables to Solve Problems

Write an equation to represent the problem, using the variable *n* for the unknown number. Then, solve for the value of the variable. Look at the following problem as an example.

George and Cindy are saving for bicycles. Cindy has saved $15 less than twice as much as George has saved. Together, they have saved $120. How much did each of them save?

Let *n* stand for the amount George has saved. What stands for the amount Cindy has saved? $2n - 15$ What equals the total amount? $n + (2n - 15) = 120$

Simplify: $3n - 15 = 120$ Solve.

How much has George saved? $45

How much has Cindy saved? $75

SHOW YOUR WORK

Solve each problem.

1. Nate and Laura picked apples. Laura picked $\frac{1}{2}$ as many as Nate picked. Together they picked 90 apples. How many did each of them pick?

Let *n* stand for the number Nate picked.

Equation: _____

How many apples did Nate pick? _____

How many apples did Laura pick? _____

1.

2. Jordan travels $\frac{3}{4}$ of a mile longer to school each day than Harrison does. Combined, they travel $5\frac{1}{4}$ miles to school. How far does each travel?

Let *n* stand for the distance Jordan travels.

Equation: _____

How far does Jordan travel? _____

How far does Harrison travel? _____

2.

3. Two jackets have a combined cost of $98. Jacket A costs $12 less than Jacket B. How much does each jacket cost?

Let *n* stand for the cost of Jacket A.

Equation: _____

Jacket A costs _____.

Jacket B costs _____.

3.