

**LESSON**  
**2-8**

**Problem Solving**

**Solving Two-Step Equations**

The chart below describes three different long distance calling plans. Jamie has budgeted \$20 per month for long distance calls. Write the correct answer.

Plan	Monthly Access Fee	Charge per minute
A	\$3.95	\$0.08
B	\$8.95	\$0.06
C	\$0	\$0.10

1. How many minutes will Jamie be able to use per month with plan A? Round to the nearest minute.

\_\_\_\_\_

2. How many minutes will Jamie be able to use per month with plan B? Round to the nearest minute.

\_\_\_\_\_

3. How many minutes will Jamie be able to use per month with plan C? Round to the nearest minute.

\_\_\_\_\_

4. Which plan is the best deal for Jamie's budget?

\_\_\_\_\_

5. Nolan has budgeted \$50 per month for long distance. Which plan is the best deal for Nolan's budget?

\_\_\_\_\_

The table describes four different car loans that Susana can get to finance her new car. The total column gives the amount she will end up paying for the car including the down payment and the payments with interest. Choose the letter for the best answer.

Loan	Down Payment	Number of Months	Total
A	\$2000	60	\$19,821.20
B	\$1000	48	\$19,390.72
C	\$0	60	\$20,197.20

6. How much will Susana pay each month with loan A?

- A \$252.04                      C \$330.35
- B \$297.02                      D \$353.68

7. How much will Susana pay each month with loan B?

- F \$300.85                      H \$323.17
- G \$306.50                      J \$383.14

8. How much will Susana pay each month with loan C?

- A \$336.62                      C \$369.95
- B \$352.28                      D \$420.78

9. Which loan will give Susana the smallest monthly payment?

- F Loan A                      H Loan C
- G Loan B                      J They are equal

*(Handwritten initials)*

## Solving Equations with Variables on Both Sides

The chart below describes three long-distance calling plans. Round to the nearest minute. Write the correct answer.

1. For what number of minutes will plan A and plan B cost the same?

\_\_\_\_\_

Long-Distance Plans

Plan	Monthly Access Fee	Charge per minute
A	\$3.95	\$0.08
B	\$8.95	\$0.06
C	\$0	\$0.10

2. For what number of minutes per month will plan B and plan C cost the same?

\_\_\_\_\_

3. For what number of minutes will plan A and plan C cost the same?

\_\_\_\_\_

Choose the letter for the best answer.

*Show your work on the back!*

4. Carpet Plus installs carpet for \$100 plus \$8 per square yard of carpet. Carpet World charges \$75 for installation and \$10 per square yard of carpet. Find the number of square yards of carpet for which the cost including carpet and installation is the same.
5. One shuttle service charges \$10 for pickup and \$0.10 per mile. The other shuttle service has no pickup fee but charges \$0.35 per mile. Find the number of miles for which the cost of the shuttle services is the same.
6. Joshua can purchase tile at one store for \$0.99 per tile, but he will have to rent a tile saw for \$25. At another store he can buy tile for \$1.50 per tile and borrow a tile saw for free. Find the number of tiles for which the cost is the same. Round to the nearest tile.
7. One plumber charges a fee of \$75 per service call plus \$15 per hour. Another plumber has no flat fee, but charges \$25 per hour. Find the number of hours for which the cost of the two plumbers is the same.

102