





Name _____


Problem-Solving Strategy Using Logical Reasoning


R 4-5

The winner of the Hidden Treasure contest wins a free trip to a tropical island. The winner will then go to the mystery address to find the treasure.

 **Understand** You need to know what digits to put in order from least to greatest.

 **Plan** Use logical reasoning and a table to organize the information.

 **Solve** Make a table that lists all the possible digits under each letter and work through the clues.

 **Look Back** Check that all digits satisfy each clue.

Find the Hidden Treasure!

Where: ABC Diamond Road

Use these clues to figure out the address:

Clue 1 All the digits are different.

Clue 2 The digits are in order from least to greatest.

Clue 3 $C = 4 \times A$

Clue 4 $B = 5$

Follow these steps to use logical reasoning to interpret the clues and the table to the right to help you find the mystery address.

Start with Clue 4: $B = 5$. Circle the 5 in the B column and cross out all the other numbers in the column.

By Clue 1, all the digits are different. So you know that neither A nor C can be 5, so cross out 5 in columns A and C .

By Clue 2, the digits are in order from least to greatest. That means that A can't be any number greater than 5, so cross out 6–9 in column A . Also, C can't be less than 5, so cross out 0–4 in column C .

By Clue 3, $A \times 4 = C$. Try the possible numbers for A . Cross out the ones that don't work:

Try 0, $0 \times 4 = 0$; that doesn't work since C can't be 0.

Try 1, $1 \times 4 = 4$; that doesn't work since C can't be 4.

Try 2, $2 \times 4 = 8$; that works. Circle 2 in column A and 8 in column C .

A	B	C
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

1. What is the address of the hidden treasure? _____