

Finding Missing Factors More Efficiently

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Rule I: Use only numbers from the green block to fill in the green hexagons.

Rule II: Try to use the largest number possible at each step.

Rule III: Use a zero for any green hexagon that you do not need.

0	1	2	3	6	9	18
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1 starting number: 45

$$9 \times \text{3} = \square$$

What's left?

$$9 \times \square = \square$$

What's left?

$$9 \times \square = \square$$

What's left?

$$9 \times \text{5} = 45$$

2 starting number: 42

$$7 \times \text{6} = \square$$

What's left?

$$7 \times \text{0} = \square$$

What's left?

$$7 \times \square = \square$$

What's left?

$$7 \times \square = 42$$

3 starting number: 96

$$8 \times \square = \square$$

What's left?

$$8 \times \square = \square$$

What's left?

$$8 \times \square = \square$$

What's left?

$$8 \times \square = 96$$

4 starting number: 75

$$5 \times \square = \square$$

What's left?

$$5 \times \square = \square$$

What's left?

$$5 \times \square = \square$$

What's left?

$$5 \times \square = 75$$

5 starting number: 104

$$8 \times \square = \square$$

What's left?

$$8 \times \square = \square$$

What's left?

$$8 \times \square = \square$$

What's left?

$$8 \times \square = 104$$

6 starting number: 98

$$7 \times \square = \square$$

What's left?

$$7 \times \square = \square$$

What's left?

$$7 \times \square = \square$$

What's left?

$$7 \times \square = 98$$

Again, use 0, 1, 2, 3, 6, 9, or 18 to build the missing factor in the orange hexagon.

- | | | | | | | |
|---|---|---|---|---|---|----|
| 0 | 1 | 2 | 3 | 6 | 9 | 18 |
|---|---|---|---|---|---|----|

7 starting number: 32

8 starting number: 51

9 starting number: 275

$$2 \times \text{hexagon} = 32$$

$$3 \times \text{hexagon} = 51$$

$$25 \times \text{hexagon} = 275$$

10

11

12

$$15 \times \text{hexagon} = 195$$

$$4 \times \text{hexagon} = 132$$

$$9 \times \text{hexagon} = 225$$

13 Challenge Soo Jin wants to give 12 stickers to each of her 8 friends. She has 71 stickers. How many more stickers does Soo Jin need? Show your work.

_____ stickers