Multiplying Numbers Close to Tens

You will need
- base ten blocks

GOAL

Multiply using a simpler, related question.

A hotel has 7 floors. On each floor, there are 39 windows.

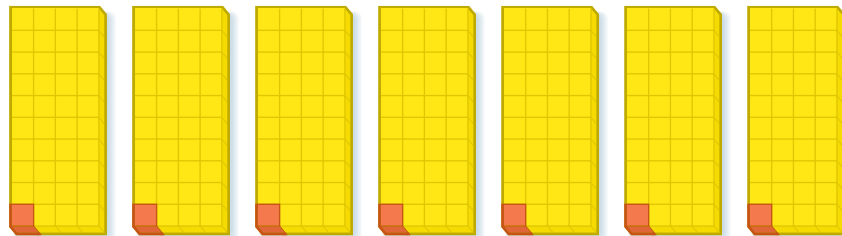**How many windows, in total, does the hotel have?**

Brandon's Solution

I need to calculate 7×39.
It's easier to calculate $7 \times 40 = 280$.
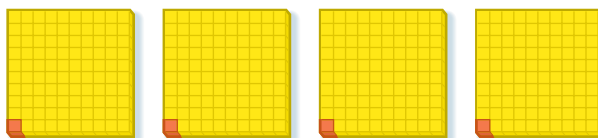But there are 39, not 40, windows on each of the 7 floors.
I have to subtract 7.

$$7 \times 40 = 280$$
$$280 - 7 = 273$$
$$7 \times 39 = 273$$

Reflecting

A. Why did Brandon start by multiplying 7×40?

B. Explain how he could have used a similar strategy if there had been
- 38 windows on each floor
- 41 windows on each floor

Checking

1. a) A building with 4 floors has 99 windows on each floor. How does this model show that 4×99 is 4 less than 400?

b) How can you use your answer for part a) to calculate 4×99?

2. Which is greater: 9×80 or 9×82? How much greater?

Practising

3. a) 3×29 is 3 less than 3×30. Sketch a picture to show how you know.
b) How can you use your answer for part a) to calculate 3×29?

4. a) A building has 5 floors with 49 windows on each floor. How many windows does it have in total?
b) A building has 7 floors with 39 windows on each floor. How many windows does it have in total?

5. Grace walks 9 km each day.
a) There are 28 days in February. How many kilometres does Grace walk in February?
b) There are 31 days in March. How can you calculate the number of kilometres Grace walks in March?

6. Calculate. Explain your strategy for two calculations.
   a) 79×4 **c)** 8×58
   b) 6×91 **d)** 51×4

7. How much more or less than 7×80 is each product? Explain your strategy for one of your answers.
   a) 7×77 **c)** 7×79
   b) 7×82 **d)** 7×83

8. Copy and complete each set of products. What patterns do you notice?
   a) 2×19 **b)** 2×99
       3×19 3×99
       4×19 4×99
       5×19 5×99

9. How can you use $12 \times 100 = 1200$ to calculate 12×97?

10. Calculate.
   a) 61×8 **c)** 82×8
   b) 6×77 **d)** 97×3

11. A shopping mall has a glass ceiling. There are 8 rows of 29 windows. How many windows are in the glass ceiling? Explain your thinking.

12. Calculate. Explain your strategy for two of your calculations.
a) 22×9 c) 66×9
b) 36×11 d) 46×8

13. A window-washing company charges $5 to wash one window. How much would the company charge for each job?
a) 9 floors of 48 windows
b) 7 floors of 78 windows
c) 6 floors of 68 windows

14. Calculate.
a) 76×9 c) 9×98
b) 7×61 d) 51×8

15. a) The ⑨ key on your calculator is broken. You need to multiply 8×79 on your calculator. What can you do?
b) How can you multiply 8×99 on your calculator without using the ⑨ key?

16. a) How do you know that 8×28 is greater than 200 without calculating?
b) Calculate 8×28.

17. How can you use multiplying by tens or hundreds to figure out 6×98?