

6.NS Multiples and Common Multiples

Alignments to Content Standards: 6.NS.B.4

Task

- List all the multiples of 8 that are less than or equal to 100.
- List all the multiples of 12 that are less than or equal to 100.
- What are the common multiples of 8 and 12 from the two lists?
- What is the least common multiple of 8 and 12?
- Lyle noticed that the list of common multiples has a pattern. Describe a pattern in the list of numbers that Lyle might have seen.

IM Commentary

This problem uses the same numbers and asks similar mathematical questions as "6.NS The Florist Shop," but that task requires students to apply the concepts of multiples and common multiples in a context.

[Edit this solution](#)

Solution

- 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96

b. 12, 24, 36, 48, 60, 72, 84, 96

c. 24, 48, 72, 96

d. 24

e. There are several patterns that Lyle might have noticed:

- Each number in the list of common multiples is 24 more than the previous number
- All the common multiples of 8 and 12 are multiples of 24 (the least common multiple)
- The numbers in the list of common multiples appear every third time in the list of multiples of 8 and every second time in the list of multiples of 12

The Illustrative Mathematics Project needs a task that helps students develop explanations for the patterns described here. The ideas all originate from the meaning of multiplication, which students first encounter in 2nd grade (see 2.OA.3 and 2.OA.4). Teachers who have been successful at supporting students' in reasoning about common multiples are encouraged to submit tasks related to 6.NS.4.



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