

Finding Common Factors

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

- To solve these puzzles, you may need to make more than one list of numbers.
- Read all the clues for each puzzle before you begin.
- The boxes next to the clues show you how many digits the number has.

Clues


Workspace

1 Puzzle A

- Less than 30
- Even
- Product of the digits does not equal 8
- Sum of the digits = 3

2 Puzzle B

- Odd
- Factor of 36
- Not a factor of 48
- A square number

-  **3** Which clue in Puzzle B is unnecessary? Explain why the clue is unnecessary.

4 Puzzle C

- Sum of the digits = 9
- Common factor of 54 and 90

There may be more than one possible answer to these puzzles. Find as many possibilities as you can.

Clues

Workspace

5 Puzzle D

- Common multiple of 6 and 9 less than 90
- Tens digit is less than the ones digit
- Product of the digits is a 1-digit number

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6 Puzzle E

- Common factor of both 66 and 99
- Sum of digits is a factor of 12
- Product of digits is a square number

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7 Julie bakes bread every fourth day. She bakes muffins every fifth day. If she bakes both bread and muffins today, in how many days will she bake both bread and muffins again? Explain how you know.

8 Challenge Puzzle F

- 3-digit common multiple of 4 and 20
- Greater than 10×20 , but less than 17×20
- Sum of the digits is even
- Product of the digits = 0
- Sum of the digits = 10

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