

The Doorman's Code

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Math Detectives! We need you to get inside that fancy building, but the doorman just keeps saying numbers! Other people know what number to respond with to get inside, so there must be a pattern. Can you figure out the codes using what you know about math?

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Code #1

- The Doorman said 19. The spy said 16, and was let in.
- When a new person walked up, the Doorman said 82. That spy said 79, and was let in.
- A third person walked up, and the Doorman said 4. The spy said 1, and was let in.

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Code #2

- The Doorman said 10. The spy said 5, and was let in.
- When a new person walked up, the Doorman said 8. That spy said 4, and was let in.
- A third person walked up, and the Doorman said 4. The spy said 2, and was let in.

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Can you crack the codes?

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Solutions

Code #1: Subtract 3

- $19 - 3 = 16$
- $82 - 3 = 79$
- $4 - 3 = 1$

Code #2: Divide by 2

- $10 \div 2 = 5$
- $8 \div 2 = 4$
- $4 \div 2 = 2$

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Now it's your turn to be the Doorperson!

Come up with your own code using combination of addition, subtraction, multiplication, and division.

Examples: Add 3, then divide by 2; Add 4, then subtract 7; and more!