

# Stair Master!

Name \_\_\_\_\_

Eraser, Ruler, Mouse, and Compass run up a freshly painted staircase. Eraser steps on every other step, Ruler steps on every third step, Mouse steps on every fourth step, and Compass steps on every fifth step. There are a total of 40 steps in the staircase and all four characters start on the floor at the bottom of the stairs.



1. a. After they all reach the top of the staircase, how many of the steps are still freshly painted without any footprints on them? \_\_\_\_\_

b. Which numbered steps were not stepped upon by any of the characters?

c. Do the numbers of these steps share any distinctive characteristic?

d. Explain why these specific numbers were not stepped upon by any of the characters.

2. List the numbers of the steps touched by each of the characters:

Eraser (2)	Ruler (3)	Mouse (4)	Compass (5)
What appears to be true about these numbers?	What appears to be true about these numbers?	What appears to be true about these numbers?	What appears to be true about these numbers?

- 3. a.** Identify the numbers of the steps which both Mouse and Compass shared on their trip up the stairs.
- b.** Forecast the next two step numbers that would be shared by Mouse and Compass if the stairs continued beyond the 40th step.
- 4. a.** Identify the numbers of the steps which both Ruler and Compass shared on their trip up the stairs.
- b.** If the stairs continued beyond 100 steps, forecast the next step number (after 100) which would be shared by Ruler and Compass.
- 5.** Identify the numbers of the steps which were shared by all four of the characters on their trip up the stairs.
- 6.** Is the number 24,568 divisible by 2? \_\_\_\_\_  
How can you quickly determine if a number is divisible by 2? (“Use a calculator” is not an acceptable answer.)
- 7.** Is the number 5,214 divisible by 3? \_\_\_\_\_  
How can you quickly determine if a number is divisible by 3? (“Use a calculator” is not an acceptable answer.)
- 8.** Is the number 105,004,650 divisible by 5? \_\_\_\_\_  
How can you quickly determine if a number is divisible by 5? (“Use a calculator” is not an acceptable answer.)