Workshop: Factors, Multiples, and Primes

Use the Self-Check Questions in the *Student Activity Book* to check your progress with number and multiplication concepts. Then use the menus to choose which problems to solve in the workshop.

Revisit the Floor Tiler Game

1. Lee Yah and Romesh are playing the Floor Tiler game. Look at the grids for their game below.

Romesh's Grid

2 × 5 = 10	2 × 2 = 4
3 × 5 = 15	5 × 5 = 25
7 × 6 = 42	
2 × 5 = 10	2 × 3 = 6
4 × 2 = 8	1 × 7 = 7	2 × 4 = 8

Lee Yah's Grid

2 × 5 = 10
2 × 2 = 4
10 × 10 = 100	7 × 3 = 21
3 × 1 = 3

Using their game results:
   A. Name some multiples of 5.
   B. Name a factor of 21.
   C. Name some multiples of 7.

Student Guide - Page 88

2. Romesh has "tiled the floor" except for one rectangular area of 7 squares. Romesh thinks he can complete his floor before Lee Yah. List the ways that he can cover 7 squares.

3. Lee Yah has also "tiled the floor" except for one rectangular area of 12 squares. Lee Yah thinks she can complete her floor before Romesh. List the ways that she can cover 12 squares.

4. Who do you think is more likely to win this Floor Tiler game, Romesh or Lee Yah? Explain your reasoning.

Play the *Floor Tiler* game with some friends. Directions are in Lesson 4 in the *Student Guide.* Your teacher will provide additional *Floor Tiler Grid Paper.*

Student Guide - Page 89

Student Guide

Workshop: Factors, Multiples, and Primes

Questions 1–3 (SG pp. 88– 89)

1. **A.** 10, 15, 25; I can see these on Romesh's Grid.

   B. 7 and 3 are both factors of 21; $7 \times 3 = 21$

   C. 42, 21, and 7 are all multiples of 7 that are on the grids.

2. In one turn, the only way to cover 7 squares is to spin 1×7. In two turns, he could spin a 1×1 and then 2×3 or spin 2 x 2 and then 1×3 to win.

3. In one turn, 3 x 4 and 6 x 2 both make 12. There are many combinations of spins to make two rectangles to cover those 12 squares. 1×2 and 1×10; 1×3 and 3×3; 1×3 and 1×9; 1×4 and 2×4; 1×4 and 1×8; 1×5 and 1×7; 1×6 and 2×3.

4. Lee Yah is more likely to win, because she has more chances to spin a product of 12 or spin factors than make rectangles that sum 12.