Fibonacci Day maths for IB Maths SL and HL: MYP / KS3

IB Math Revision · MYP / KS3 (ages 11 to 14) · 23 November · Student sheet

Name _____ Class _____ Date _____

No calculator needed. Every answer works out exactly.

Starter (5 minutes)

1. Write down the next three terms: 1, 1, 2, 3, 5, 8, ...

2. Simplify the ratio 8 : 12.

3. Find the 7th term of 4, 7, 10, 13, ...

4. Which of 34, 35 and 36 is in the Fibonacci sequence?

Main activity (30 minutes)

Task A: The rabbit puzzle

In a made-up rabbit puzzle, the number of pairs each month is the sum of the two months before. Month 1: 1 pair. Month 2: 1 pair.

a. How many pairs are there in month 8?

b. In which month does the number of pairs first go above 100?

c. Add the first 6 Fibonacci numbers. How does the total compare with the 8th Fibonacci number?

Task B: Fibonacci squares

Squares with sides 1, 1, 2, 3, 5 and 8 cm fit together, edge to edge, to make a rectangle.

a. What are the length and width of the rectangle?

b. Find the total area of the six squares.

c. Find the perimeter of the rectangle.

Extension

1. Every third Fibonacci number is even (2, 8, 34, ...). How many of the first 30 Fibonacci numbers are even?