SUMS OF SQUARES

STUDENT RESOURCE

- Two numbers add up to **3** and their squares add up to **5**.
  - What are the numbers?
  - How many solutions can you find?
  - Can you be sure you have found them all?

- Repeat these questions for each of the following cases:

Sum of numbers	Sum of squares
7	29
1	25
9	53
6	18

- Now try to find numbers that add up to **4** and whose squares add up to **17**.

- Can you still solve it if the squares still add up to **17** but the numbers add up to **2**? Or to **6**?

- Can you interpret your results geometrically?

- What values of the sum are possible if the squares add up to **17**?

- Now generalise the result. What values of the sum are possible if the squares add up to some other number?

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