***How can you identify a perfect square?***

1. Use the square tile sheet on the second page and some colour pencils/crayons, to make five rectangles with the dimensions shown. What is the area of each rectangle?

|  |  |  |  |
| --- | --- | --- | --- |
| Length | Width | Colour | Area |
| 5 | 3 |  |  |
| 8 | 2 |  |  |
| 9 | 1 |  |  |
| 4 | 3 |  |  |
| 9 | 4 |  |  |

1. Try to rearrange the tiles (re-draw) in each rectangle to make a square.

The area must stay the same!

* + 1. Which rectangles can you make into squares?
    2. What is the side length of each square?
    3. How is the area of each square related to its side length?

1. Choose three perfect square and three non-perfect squares. Express each as a product of prime numbers.
2. For each number, how many times does each prime factor appear? Compare your results with a partner.
3. What do all the perfect squares have in common?
4. What do all the non-perfect square have in common?