Investigating Perfect Square Fractions

**Number**

**Unit 1 Line Master 5a**

A grid of white squares

Description automatically generated1. This grid has 100 grid squares.

a) Shade grid squares to model as a square.

b) What is the side length of the shaded square?

c) The grid has side length 10 units.   
Write the side length of your shaded square as   
a fraction of the side length of the grid   
(e.g., with denominator 10).

d) What do you notice about the side length of the shaded part?  
  
  
e) Is a perfect square? Explain.

A grid of white squares

Description automatically generated2. This grid has 64 grid squares.

a) Shade grid squares to model as a square.

b) What is the side length of the shaded square?

c) The grid has side length 8 units.   
Write the side length of your shaded square as a fraction   
of the side length of the grid (e.g., with denominator 8).

d) What do you notice about the side length of the shaded part?

e) Is a perfect square? Explain.

**Investigating Perfect Square Fractions** (cont’d)

**Number**

**Unit 1 Line Master 5b**

3. Each of these fractions is less than 1. For each fraction:

* Identify whether it is a perfect square or not. Explain or illustrate using a square.
* If the fraction is a perfect square, identify its square root. Multiply to check.
* If the fraction is not a perfect square, explain your reasoning.

a)

b)

c)

d)

4. Each of these fractions is greater than 1. For each fraction:

* Identify whether it is a perfect square or not.
* If the fraction is a perfect square, identify its square root. Multiply to check.
* If the fraction is not a perfect square, explain your reasoning.

a)

b)

c)

d)