

**Number**  
**Unit 2 Line Master 1a**

## Investigating Perfect Square Fractions

1. This grid has 100 grid squares.

a) Shade grid squares to model  $\frac{81}{100}$  as a square.

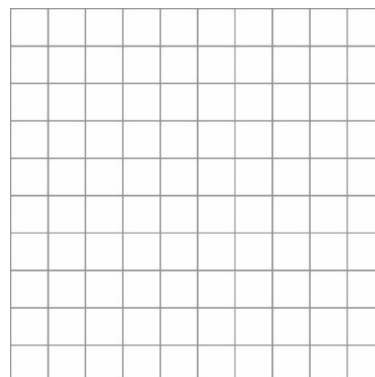
b) What is the side length of the shaded square?

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  $\frac{81}{100}$  a perfect square? Explain.



2. This grid has 64 grid squares.

a) Shade grid squares to model  $\frac{36}{64}$  as a square.

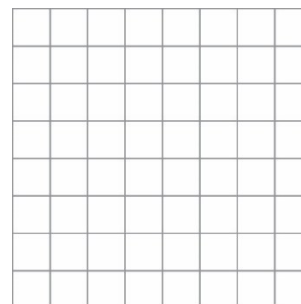
b) What is the side length of the shaded square?

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  $\frac{36}{64}$  a perfect square? Explain.



**Number**  
**Unit 2 Line Master 1b****Investigating Perfect Square Fractions (cont'd)**

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)  $\frac{25}{49}$

b)  $\frac{16}{36}$

c)  $\frac{64}{75}$

d)  $\frac{14}{25}$

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)  $\frac{49}{16}$

b)  $\frac{75}{16}$

c)  $5\frac{4}{9}$

d)  $3\frac{13}{36}$