Name_____ Date_____
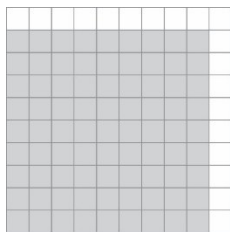
Investigating Perfect Square Fractions
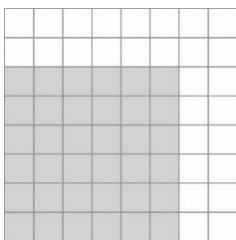## Answers

1. a)

b) 9 units

c) $\frac{9}{10}$ units

d) 9 is the square root of 81 and 10 is the square root of 100.

e) Yes, because it can be represented by a square with side length $\frac{9}{10}$ units.

Also, I can see that it is a perfect square in the grid.

2. a)

b) 6 units

c) $\frac{6}{8}$ units

d) 6 is the square root of 36 and 8 is the square root of 64.

e) Yes, because it can be represented with a square with side length $\frac{6}{8}$ units.

3. a) $\frac{25}{49}$ is a perfect square because it can be represented with a square of side length $\frac{5}{7}$ units. The square root is $\frac{5}{7}$: $\frac{5}{7} \times \frac{5}{7} = \frac{25}{49}$

b) $\frac{16}{36}$ is a perfect square because it can be represented with a square of side length $\frac{4}{6}$ units. The square root is $\frac{4}{6}$, or $\frac{2}{3}$: $\frac{4}{6} \times \frac{4}{6} = \frac{16}{36}$

c) $\frac{64}{75}$ is not a perfect square. I cannot represent 75 with a square.

d) $\frac{14}{25}$ is not a perfect square. I cannot represent 14 with a square.

Mathology 9, *Squares and Square Roots*
Copyright © 2025 Pearson Canada Inc.

The right to reproduce or modify this page is restricted to purchasing schools.
This page may have been modified from its original.

Investigating Perfect Square Fractions
Answers (cont'd)

4. a) $\frac{49}{16}$ is a perfect square, because the numerator, 49, and the denominator, 16, are both

   perfect squares; the square root is $\frac{7}{4}$ or $1\frac{3}{4}$.

   $\frac{7}{4} \times \frac{7}{4} = \frac{49}{16}$

   b) $\frac{75}{16}$ is not a perfect square, because the numerator, 75, is not a perfect square.

   c) $5\frac{4}{9} = \frac{49}{9}$ is a perfect square, because the numerator, 49, and the denominator, 9,

   are both perfect squares; the square root is $\frac{7}{3}$ or $2\frac{1}{3}$.

   $\frac{7}{3} \times \frac{7}{3} = \frac{49}{9}$

   d) $3\frac{13}{36} = \frac{121}{36}$ is a perfect square, because the numerator, 121, and the denominator, 36,

   are both perfect squares; the square root is $\frac{11}{6}$ or $1\frac{5}{6}$.

   $\frac{11}{6} \times \frac{11}{6} = \frac{121}{36}$