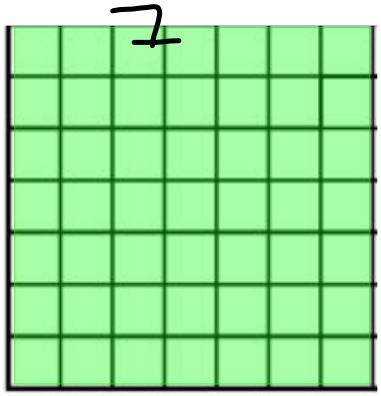
WARM UP

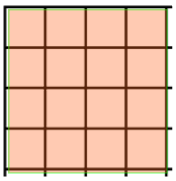
i) Determine the Area of the Shaded Squares
ii) Determine the perimeter

a)



Area = 49 P = 28

b)



Area 16
P = 16

Find the square root of the following:

a) $\frac{1}{144}$

$\frac{\sqrt{1}}{\sqrt{144}} = \frac{1}{12}$

b) $\frac{121}{81}$

$\frac{11}{9}$

c) 36

6

Without a calculator

Determine if the decimal is a perfect square?

$$\frac{1.69 \times 100}{1 \times 100} = \frac{169}{100} = \frac{13}{10}$$

perfect square

$$\frac{0.016 \times 1000}{1 \times 1000} = \frac{16}{1000}$$ X

not perfect

Calculate the number whose square root is $\frac{4}{7}$ 4 2 / 7 2

$\frac{16}{49}$

Basically what is the area????

Perfect Squares

$1^2 = 1 \times 1 = \boxed{1}$

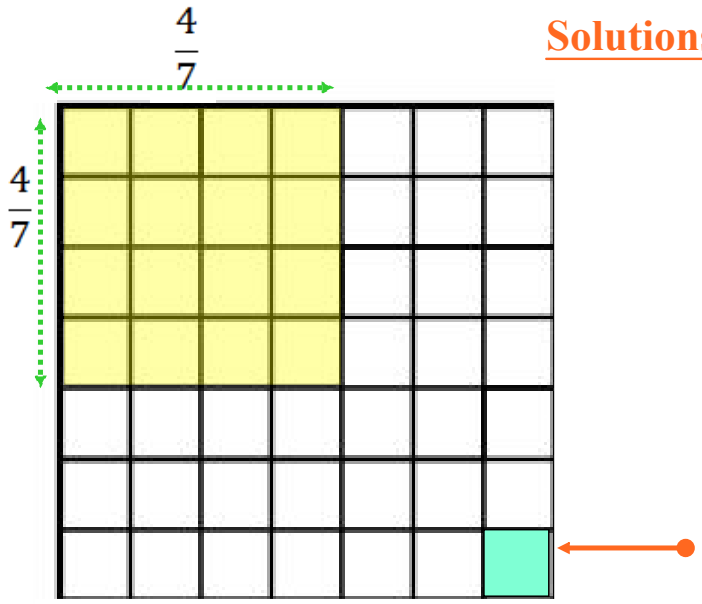
$2^2 = 2 \times 2 = \boxed{4}$

$3^2 = 3 \times 3 = \boxed{9}$

$\vdots$

20^2

Solutions



This square is $\frac{1}{49}$ sqaure units

$$\left(\frac{4}{7}\right)^2 = \frac{4}{7} \times \frac{4}{7}$$

$$= \frac{16}{49}$$

So $\frac{4}{7}$ is the square root of $\frac{16}{49}$

You Try!!!

Calculate the number whose square root is .

1) $\frac{7}{11}$ $\frac{49}{121}$

2) $\frac{3}{5}$ $\frac{9}{25}$

3) 1.5 2.25

Identifying Decimals that are Perfect Squares

1.44

Method 1

Write the decimal as a fraction

$$\frac{144}{100}$$

Simplify the fraction. Divide the numerator and denominator by 4.

$$1.44 = \frac{36}{25}$$

$$= \frac{6}{5} \text{ X } \frac{6}{5}$$

THUS 1.44 is a perfect square

Method 2

Use a Calculator.

Use the square root button $\sqrt{\ }$

$$\sqrt{1.44} = 1.2$$

Since the sqaure root is a terminating decimal then 1.44 is a perfect square.

To Determine if a Fraction is a Perfect Square

BOTH Numerator and Denominator MUST be Perfect Square Numbers

***Simplify fractions first ***

$$\frac{27 \div 9}{45 \div 9} = \frac{3}{5}$$

Is each fraction a perfect square? Explain

a) $\frac{18}{32}$ $\frac{9}{16}$ Y

b) $\frac{4}{3}$ N

c) $\frac{9}{25}$ Y