Curriculum Outcome

(N5) Determine the square root of positive rational numbers that are perfect squares.

(N6) Determine an approximate square root of positive rational numbers that are non-perfect squares.

(SS2) Determine the surface area of composite 3-D objects to solve problems

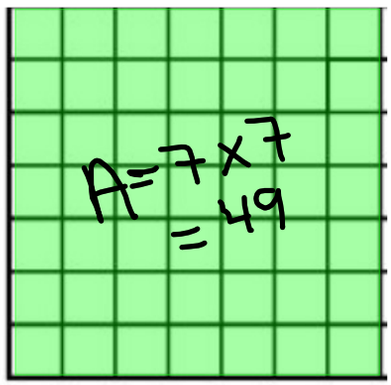
(N4) **Explain and apply the order of operations, including exponents, with and without technology.**

WARM UP

Without Calculators

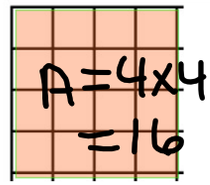
i) Determine the Area of the Shaded Squares
ii) Determine the perimeter

a)



P=7+7+7+7+7
= 28

b)



P=4+4+4+4
= 16

Find the square root of the following:

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

$\frac{1}{12}$

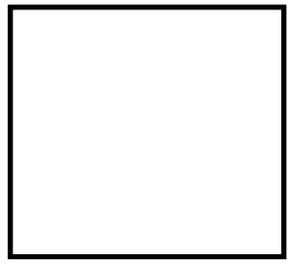
b) $\sqrt{\frac{121}{81}}$

$\frac{11}{9}$

c) $\sqrt{36}$

6

If the side length is $\left(\frac{4}{9}\right)^2$ what is the area ?



$A = \frac{16}{81}$

If the area of a square is $\sqrt{\frac{16}{25}}\text{cm}^2$, what is the side length?

$\text{Side} = \frac{4}{5}$

[redacted]

[redacted]ers

May have to

** [redacted] ***

[redacted]

Is each fraction a perfect square? Explain

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

$\frac{2}{?}$

Not

c) $\frac{300}{108}$ $\div 12$ $\div 12$ $\sqrt{\frac{25}{9}}$

$= \frac{5}{3}$

P.S

d) $\sqrt{\frac{8}{12}}$ $\div 2$ $\div 2$ $\sqrt{\frac{4}{6}}$

$\frac{2}{?}$

Not P.S

Identifying Decimals that are Perfect Squares

$$\sqrt{1.44} = \sqrt{\frac{144}{100}} = \frac{12}{10}$$

Method 1

Write the decimal as a fraction

$$1.44 = \frac{144}{100}$$

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

$$\sqrt{1.44} = \sqrt{\frac{144}{100}}$$

$$= \frac{12}{10}$$

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.

- Without a calculator

Determine if the decimal is a perfect square?

3.24

$\sqrt{\frac{324}{100}}$

$= \frac{18}{10}$

0.016

$\sqrt{\frac{16}{1000}}$

$= \frac{4}{?}$

Not P.S

$10^1 = 10$

$10^2 = 100$ P.S

$10^3 = 1000$ Not P.S

$10^4 = 10000$ P.S

10^5

10^6 P.S

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

$$\sqrt{x} = \frac{4}{7}$$

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

Basically what is the area????

Calculate the number whose square root is $\frac{4}{9}$

Class/ Homework

Page 11 & 12

3 (a, b, c)

#5 (without calculator)

7 (without calculator)

8 (a, c, d, f, g, i,j , l) without a calculator

8(b,e,h,k) with calculator

9

10(a, b)

14

16