

Warm Up

Grade 8

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225

1) Estimate $\sqrt{96}$ (Show Work)

$$\begin{array}{c} \sqrt{81} \quad \sqrt{100} \\ \downarrow \quad \downarrow \\ 9 \quad 10 \\ \text{closer} \end{array}$$

$\sqrt{96} \approx 9.8$

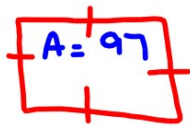
2) Estimate $\sqrt{37}$ (Show Work)

$$\begin{array}{c} \sqrt{36} \quad \sqrt{49} \\ \downarrow \quad \downarrow \\ 6 \quad 7 \\ \text{closer} \end{array}$$

$\sqrt{37} \approx 6.1$

3) A square garden has area 97 m^2

a) What are the approximate dimensions of the garden to ^{one} ~~two~~ decimal places?



$$\begin{aligned} \text{Side} &= \sqrt{\text{Area}} \\ &= \sqrt{97} \end{aligned}$$

$$\begin{array}{c} \sqrt{81} \quad \sqrt{100} \\ \downarrow \quad \downarrow \\ 9 \quad 10 \\ \text{closer} \end{array}$$

The approximate dimensions of the garden is side length of 9.8 m .

b) About how much fencing would be needed to go around the garden?

$$\begin{aligned} \text{Perimeter} &= S + S + S + S & \text{or} & \quad 4 \times \text{Side} \\ &= 9.8_{\text{m}} + 9.8_{\text{m}} + 9.8_{\text{m}} + 9.8_{\text{m}} & & \quad \begin{array}{r} 9.8 \\ \times 4 \\ \hline 39.2 \end{array} \\ &= 39.2 \text{ m} \end{aligned}$$

9.8 m of fencing is needed to go around the garden.

#5) a) $\sqrt{5}$
 $\sqrt{4}$ $\sqrt{9}$
 $= 2$ $= 3$
 $\sqrt{5} \approx 2.1$

b) $\sqrt{11}$
 $\sqrt{9}$ $\sqrt{16}$
 $= 3$ $= 4$
 closer
 $\sqrt{11} \approx 3.2$

c) $\sqrt{57}$
 $\sqrt{49}$ $\sqrt{64}$
 $= 7$ $= 8$
 $\sqrt{57} \approx 7.6$

d) $\sqrt{38}$
 $\sqrt{36}$ $\sqrt{49}$
 $= 6$ $= 7$
 closer
 $\sqrt{38} \approx 6.2$

e) $\sqrt{171}$
 $\sqrt{169}$ $\sqrt{196}$
 $= 13$ $= 14$
 $\sqrt{171} \approx 13.1$

e) $\sqrt{115}$
 $\sqrt{100}$ $\sqrt{121}$
 $= 10$ $= 11$
 closer
 $\sqrt{115} \approx 10.7$

#7) $\sqrt{23}$
 $\sqrt{16}$ $\sqrt{25}$
 $= 4$ $= 5$
 closer to 5
 so 4.7

$\sqrt{30}$
 $\sqrt{25}$ $\sqrt{36}$
 $= 5$ $= 6$
 closer to 5
 so 5.4

$\sqrt{64} = 8$
 $\sqrt{72}$
 $\sqrt{64}$ $\sqrt{81}$
 $= 8$ $= 9$
 closer to 8
 so 8.4

X

✓

✓

Class/Homework

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225

Page 26-27

No calculators

Use
estimation
for all

Warm up

#8 (a,b,c,d)

#9 (a,b,c,d)

#11 (a,b,c) SHOW WORK

#12(a,d)

#13(a,d)

#14(a,d)

#15(a,b) Show work

#16(a,b)

#21

#23 (a,b,c)



$$\text{Side} = \sqrt{\text{Area}}$$

$$13A) \text{ Area} = 92 \\ \text{Side} = \sqrt{92}$$



Test in 2
days

Quiz outline

Page 1 (No Calculators)

- 5 MC 3 Short Response

- Must know $\sqrt{x^2} = x$ or $(\sqrt{x})^2 = x$

- Must know difference of square root of a number & squaring a number

- If a number has an odd or even number of factors then what does that tell you about the number

Page 2) (Calculator)

- Product of perfect squares

- Product of Primes