



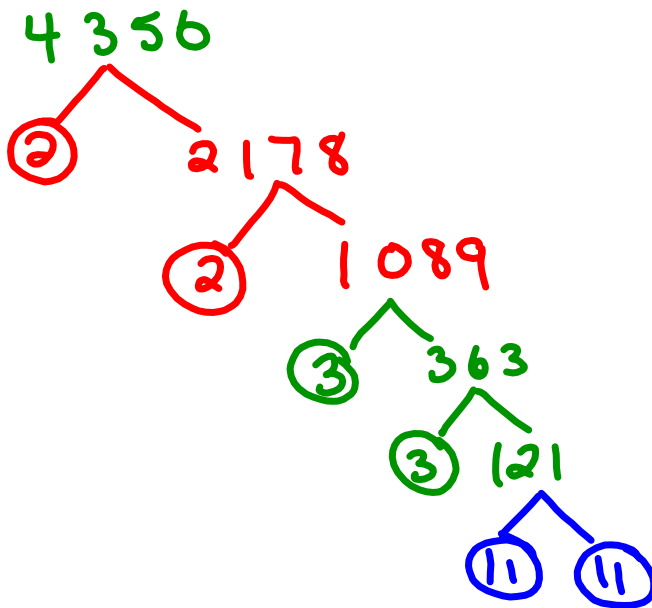
Warm Up Grade 8
Thursday, Nov. 8



Find the square of 9

$$9^2 = 81$$

Use prime factorization to find the square root of 4356 (tree)



$$4356 = 2 \times 2 \times 3 \times 3 \times 11 \times 11$$

$$\begin{aligned} \sqrt{4356} &= \sqrt{(2 \times 2) \times (3 \times 3) \times (11 \times 11)} \\ &= \sqrt{2 \times 2} \times \sqrt{3 \times 3} \times \sqrt{11 \times 11} \\ &= 2 \times 3 \times 11 \\ &= 66 \end{aligned}$$

HW Solutions

Estimating Square Roots Section 1.4

We have already learned different ways to calculate square roots of perfect square, now we will estimate square roots of any given number.

When **estimating square roots:**

Step 1) you have to find the perfect square before and after the number you are finding the square root of,

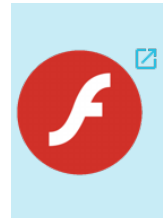
Step 2) then determine which perfect square the number is closer to.
This will help you estimate the square root.

Step 3) Make sure it is square root of perfect squares

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



Estimating square roots of non-perfect number.



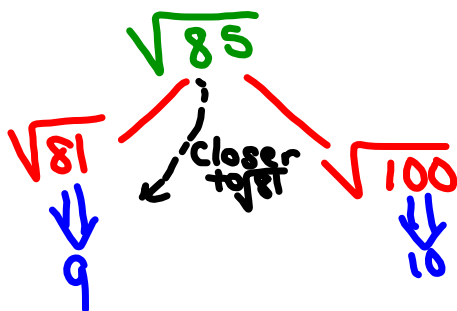
Estimate the square root of 85.

$$1^2 \ 2^2 \ 3^2 \ 4^2 \cdot$$

$$14^2 \ 15^2$$

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

↓
85



Then estimate the square root of 85

between 9 and 10
one decimal

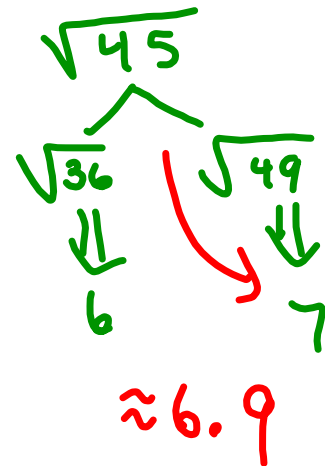
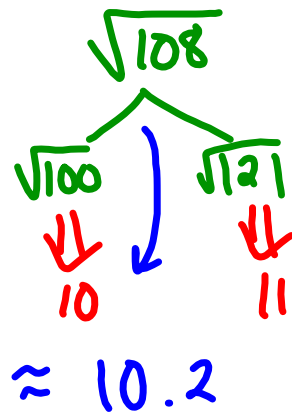
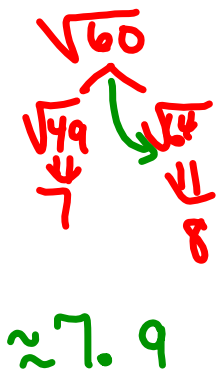
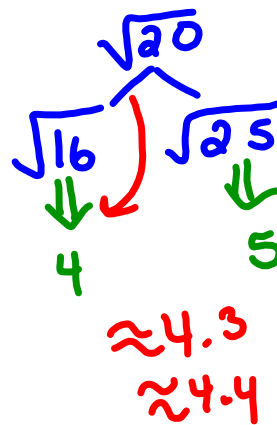
$$\approx 9.2$$

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

Show work

- a) Estimate the $\sqrt{20}$
- b) Estimate the $\sqrt{60}$
- c) Estimate the $\sqrt{108}$
- d) Estimate the $\sqrt{45}$

You Try



A square garden has area 150 m^2 .



a) What are the approximate dimensions of the garden to two decimal places?



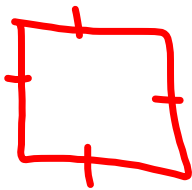
$$\text{Side} = \sqrt{\text{Area}}$$

$$\sqrt{150}$$

$$\begin{array}{r} \sqrt{144} \quad \sqrt{169} \\ 12 \qquad \quad 13 \end{array}$$

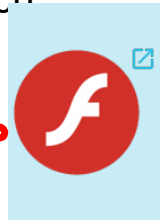
$$\approx 12.27 \text{ m}$$

b) Fencing is needed to keep out the goats. About how much fencing would be needed around the garden?



$$\text{Perimeter} = \text{side} + \text{side} + \text{side} + \text{side}$$

$$= \underbrace{\hspace{10em}}_{\text{all same for Square}}$$



$$\approx 4 \times \text{side}$$

$$\approx 4 \times 12.27 \text{ m}$$

$$\approx 49.08 \text{ m}$$

Homework pg. 25

Quiz Thursday
Nov 15

#2, #3, #4, #7

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