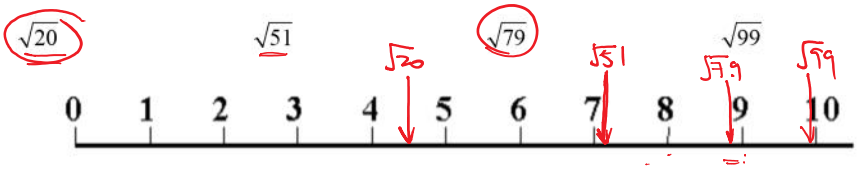
HW 7.3

April 1, 2015 8:55 PM

Name:_____ Date:_____

Math 8 Section 7.3 Estimating Square Roots

1. Draw an arrow to place the following numbers on the number line.



2. Find two consecutive whole numbers that each square root is in between?

a) $\sqrt{82}$ b) $\sqrt{65}$ c) $\sqrt{149}$ d) $\sqrt{219}$

$\sqrt{81} < \sqrt{82} < \sqrt{100}$ $\sqrt{64} < \sqrt{65} < \sqrt{81}$ $\sqrt{144} < \sqrt{149} < \sqrt{169}$ $\sqrt{196} < \sqrt{219} < \sqrt{225}$

$12 < \quad < 13$ $14 < \quad < 15$

3. Given each of the following squares, what is the side length? Show all your work:

a) $s = ?$ b) $s = ?$ c) $s = ?$ d) $s = ?$

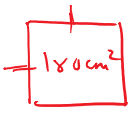
$s = \sqrt{20} \approx 4.472...$ $s = \sqrt{78}$ $s = \sqrt{117}$ m

4. Approximate the following.

a) $\sqrt{376816} \approx 600$ b) $\sqrt{809315} \approx 900$ $\sqrt{80931.52} \approx 290.0$ c) $\sqrt{359130} \approx 600$ d) $\sqrt{157995} \approx 400$ $\sqrt{15799958} \approx 1300$

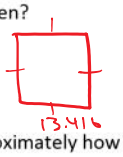
e) $\sqrt{0.0023}$ 0.05 f) $\sqrt{0.80} \approx \sqrt{0.81} \approx 0.9$ g) $\sqrt{0.0035}$ 0.06 h) $\sqrt{0.041}$ 0.2 $\sqrt{0.0000014598}$ ≈ 0.00120

5. Ms. Wu has a garden in the shape of a square in her back yard that measures 180 m².



a. What are the approximate dimensions of the garden?

$s = \sqrt{180} = 13.416$ m

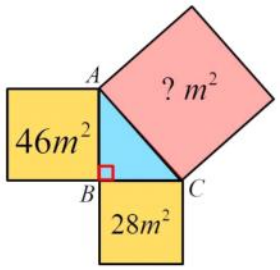


b. If she was to put a fence around her garden, approximately how much fencing would she need?

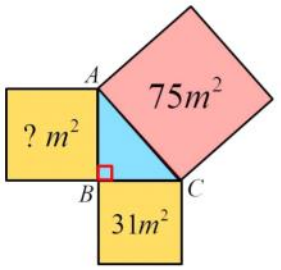
$P \sim 13.416\text{m} \times 4 = 53.66$ m

6. Find the area of the missing square.

a)

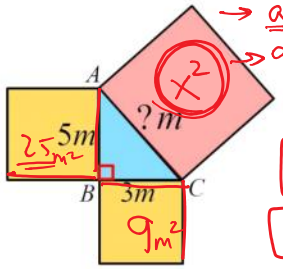


b)



7. Find the approximate value of the unknown length.

a)



$a^2+b^2=c^2$

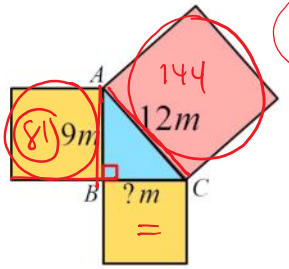
$9+25=x^2$

$34=x^2$

$\sqrt{34}=x$

$5.83=x$

b)



$a^2+b^2=c^2$

$a^2=c^2-b^2$

$a^2=144-81$

$a^2=63$

$a=\sqrt{63}$

$a=3\times\sqrt{7}$

$\sqrt{63}=\sqrt{9}\times\sqrt{7}$

$=3\sqrt{7}$ //

8. Mr. Chang wanted to put a square picture of area 2704 cm^2 into a frame that measures 50 cm by 60 cm. Would the picture fit in the frame? Explain why or why not.

9. Order the following numbers from least to greatest: $8,\ \sqrt{65},\ \sqrt{57.5},\ 3\times\sqrt{3},\ 4+\sqrt{11}$