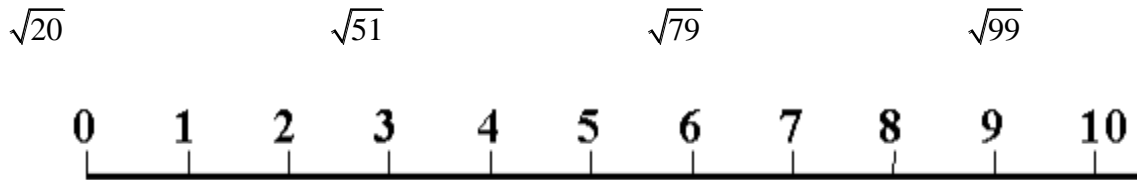Name:_____   Date:_____

Math 8 Section 7.3 Estimating Square Roots

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

$\sqrt{20}$ $\sqrt{51}$ $\sqrt{79}$ $\sqrt{99}$

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0   1   2   3   4   5   6   7   8   9   10
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2. Find two consecutive whole numbers that each square root is in between?

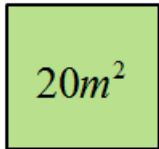$a)\ \sqrt{82}$ $b)\ \sqrt{65}$ $c)\ \sqrt{149}$ $d)\ \sqrt{219}$
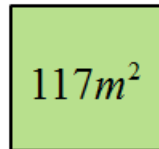
_____   _____   _____   _____

3. Given each of the following squares, what is the side length? Show all your work:
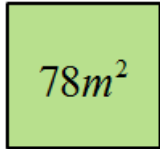
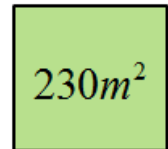a) $20m^2$ $s = ?$ b) $78m^2$ $s = ?$ c) $117m^2$ $s = ?$ d) $230m^2$ $s = ?$

4. Approximate the following.

$a)\ \sqrt{376816}$ $b)\ \sqrt{809315}$ $c)\ \sqrt{359130}$ $d)\ \sqrt{157995}$

$e)\ \sqrt{0.0023}$ $f)\ \sqrt{0.80}$ $g)\ \sqrt{0.0035}$ $h)\ \sqrt{0.041}$
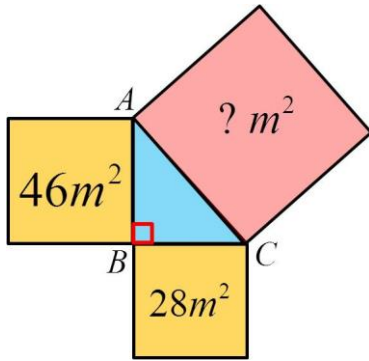
5. Ms. Wu has a garden in the shape of a square in her back yard that measures 180 cm^2.
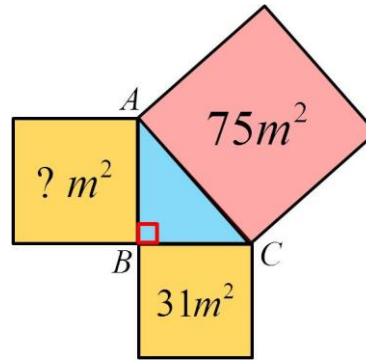   a. What are the approximate dimensions of the garden?

    b. If she was to put a fence around her garden, approximately how much fencing would she need?
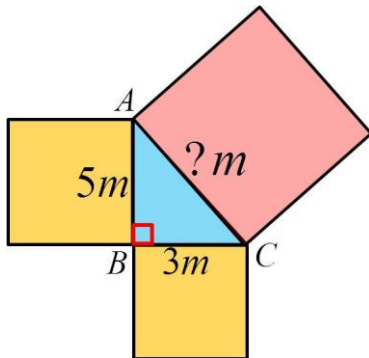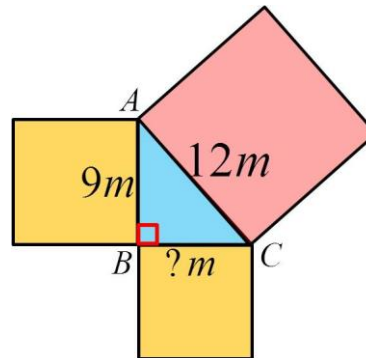
6. Find the area of the missing square.

a)

A $?\,m^2$

$46m^2$

B C

$28m^2$

b)

A $75m^2$

$?\,m^2$

B C

$31m^2$

---

7. Find the approximate value of the unknown length.

a)

A $?\,m$

$5m$

B $3m$ C

b)

A $12m$

$9m$

B $?\,m$ C

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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: $8,\ \sqrt{65},\ \sqrt{57.5},\ 3\times\sqrt{3},\ 4+\sqrt{11}$