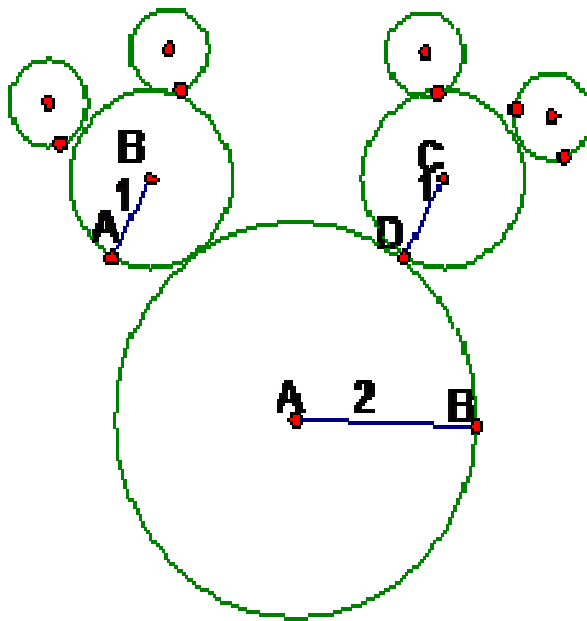


(Card Tricks and Other Funzies)

Card Trick...

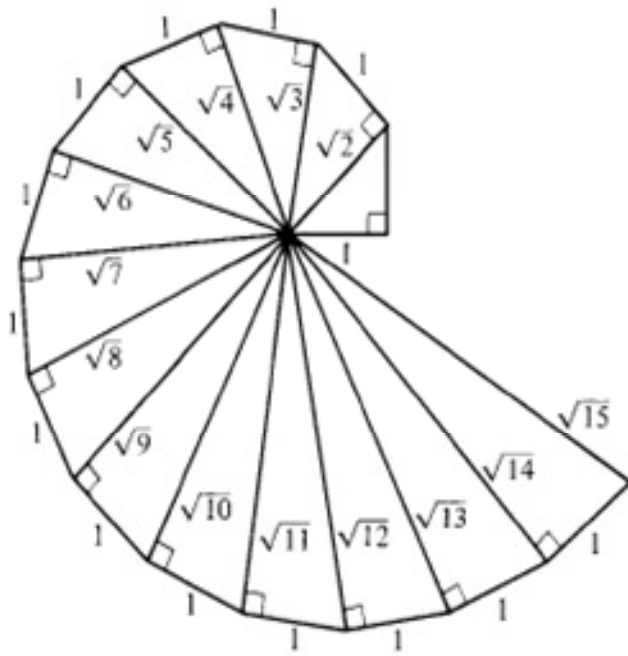
Mickey Mouse Problem



Exact Radicals...

Problem

Construct the length of  $\sqrt{15}$  exactly!



## Die Hard Problem

You have a well, one 3L jug, and one 5L jug.

Measure out exactly 4L of water.

[http://www.youtube.com/watch?v=5\\_MoNu9Mkm4](http://www.youtube.com/watch?v=5_MoNu9Mkm4)



Consider a different problem: Using 3L and 5L jugs, measure out exactly 1 L.

Count +1 every time we fill a jug from the well, -1 every time we empty full jug into the well. Then we have the following:

$$3x + 5y = 1$$

One solution is  $x=2$ ,  $y=-1$ ... What does this mean?

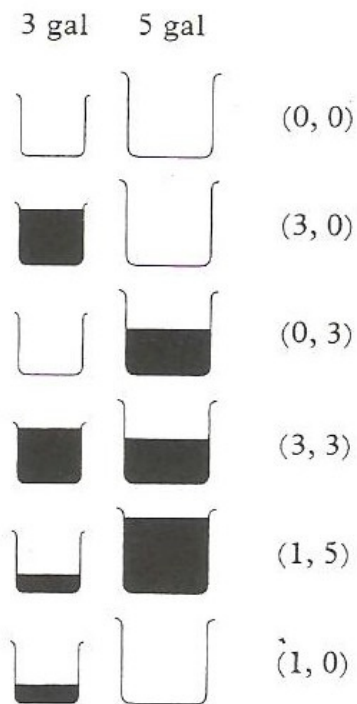


FIGURE 4.2

How about  $x=-3$ ,  $y=2$ ? In your groups try to sketch the picture for that...

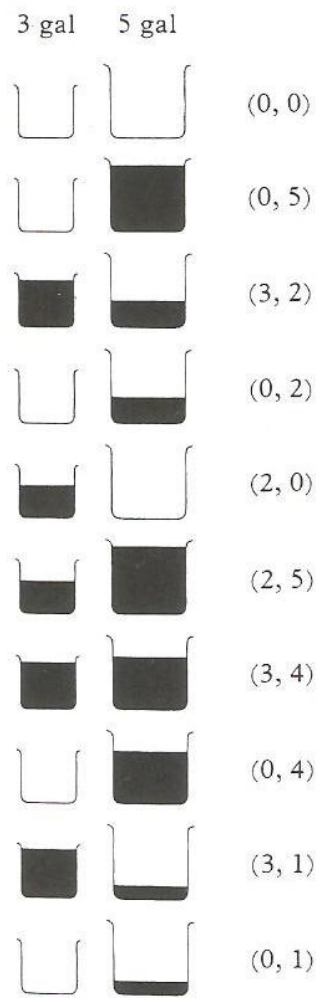


FIGURE 4.3

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