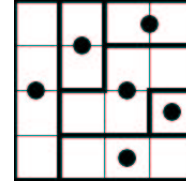
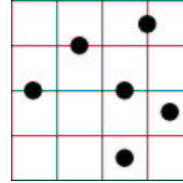
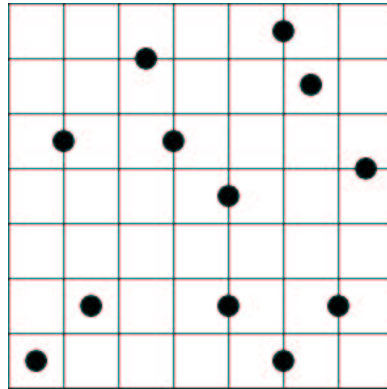


PUZZLES

The THIRD
 Brandon McPhail
 Sean Kelly
 Paul Hovda
 Daniel Hagen

SPIRAL GALAXIES!



An example and its solution

Find the unique tiling to fill the grid. Each tile must (1) be rotationally symmetric (ie. unchanged by a rotation of 180 degrees) and (2) contain one dot at its center. Only one dot per tile, please.

Kudos to Erich Friedman, "Spiral Galaxies Puzzles are NP-complete"

Even Freud could do this.

Got debt?

Colin Diver is looking for a new way to augment the endowment. Where the monkey puzzle tree used to stand is now a mini-casino with a sign "Got debt?" You and n of your friends (you're a popular type) walk into Colin's neon pagoda. "For a mere dollar, you'll get the chance to play my game!" Colin randomly chooses a black or white hat for each of you and places them on your heads. You cannot see the color of your own hat, but you can see your friends and their hats. He then gives each of you a scrap of paper and a pencil. "If you claim to know the color of your hat, write that color down; otherwise, write *PASS*. I will collect the papers and determine your prize. If everyone who guesses is correct, your group wins \$1.90. If everyone passes, I will redistribute the hats and you may try again. If anyone guesses incorrectly, your dollar is mine. Ha!" You and your friends are given time to discuss. Should you play Colin's game?

Hint: Try the problem first with 3 people - you and two friends.

Even Kant could do this.

Dell's 9-headed Homunculus

In her lab, Dell Rhodes has a certain number of: rats, pigeons, and 9-headed homunculi. There are a total of 100 heads and 100 feet. How many of each creature does Dell have?

Even Pythagoras could do this.



Clairvoyant Reed Profs.

Michael Foat, Nick Wheeler, and Bill Peck are casually sharing a mid-summer hookah on the library roof around 3am.

Nick:

"I just picked two integers greater than one."

"Mike, their sum is ..." (*whispers to Mike*).

"Bill, their product is ..." (*whispers to Bill*).

Mike: "Bill, we don't know the numbers."

Bill: "Now I do."

Mike: "Me too."

What were the numbers?

Even Aristotle could do this.

So what if Freud can do it??

Even Freud could do this.

Easy

Even Pythagoras could do this.

Not easy

Even Aristotle could do this.

More challenging

Even Kant could do this.

This is a hard problem.

Even Ray Mayer could do this.

Go ask him for help.

Questions? Blitz: puzzles@reed.edu

