

Directions: Listen to the recording of the radio show This American Life and answer the questions that follow: <http://www.thisamericanlife.org/radio-archives/episode/486/valentines-day>

Listening for Details: Download this document to answer these questions. Complete your answers to the questions by using full sentences.

Who is the man being interviewed? What does he do? Why is he speaking?

What is the Drake equation? What is it used to determine?

How did the scientists in this program adapt the Drake equation? What did they use it for?

How would you describe the odds of a Harvard professor finding love in Boston? How do those odds change based on gender?

What factors go into calculating the likelihood of finding a lover?

Listening for the Main Idea: Listen again, and then fill in the answer to the question that follows below using complete sentences on a separate sheet of paper.

What is this radio broadcast mainly about?

Discrete Listening: Listen again and then fill in the transcript below.

Ira Glass

OK. So a couple _____ physicists walk into a bar. Just kidding. They're not _____ a bar. They're _____ a school. Scientists _____ training.

David Kestenbaum

I'm sure this story seems strange _____ you, but _____ me, it was just like another day _____ the physics world.

Ira Glass

David Kestenbaum used to live in the physics world. These days he lives _____ our world. You can hear him _____ our world as part of NPR's Planet Money team reporting economics. But _____ the time _____ this story he was getting a PhD _____ high energy particle physics _____ -- there's no way to avoid the name-droppyness of what I'm about to say-- _____ Harvard University. But to paraphrase Us Magazine, Harvard physicists, _____ certain ways around the office, they're just like us.

David Kestenbaum

There's always a time of day when someone made a pot of very strong coffee and afterwards everyone drank the coffee and then didn't quite want to work yet. And so we all stood _____ and talked about various things. And there was a blackboard or a white board or something there. And we were talking about how nobody really had girlfriends.

Ira Glass

So this being physics world, the next logical thing do was employ the power of mathematics to estimate the likelihood of finding a girlfriend. And so they start jotting down a calculation.

David Kestenbaum

I guess it's sort of a variation on -- you know this thing called the Drake equation?

Ira Glass

No.

David Kestenbaum

That is a way to estimate how many planets are out there that have intelligent life on them.

Ira Glass

OK, so with this Drake equation, apparently you start with how many stars are in the universe. That is, all the places where there might be life. And then you subtract all the stars that don't have planets around them, right? Because there can't be life there. And then you subtract all the planets that are too far from the sun or too close to the sun to support life and so on -- you get the idea -- until finally you come up with the likelihood of a planet with life evolving to the point of intelligence. OK. They run the same kind of math now, except -- and I realize this is going to sound a little strange when I say this -- they replaced intelligent life with girlfriends.

David Kestenbaum

So we started to do the calculation on the board and -- can you look at what the population of Boston is?

Ira Glass

Now David is asking me to look this up because at this point in our interview I actually made him run the math with me with real numbers that we got from the internet. So he started with the population of Boston, because he and his fellow

physics students wanted girlfriends Boston, where they all lived. Population
Boston, I found online, was a little under 600,000.

David Kestenbaum

So you start with 600,000. Which sounds great, except that half them are guys, right?
And I'm only interested girls.

Ira Glass

OK, so that's 300,000.

David Kestenbaum

And then I want people, let's be honest, probably 10 years of my age or
something. Right?

Ira Glass

OK, so 10 years either side. So that means--

David Kestenbaum

I'm actually looking at some numbers here. It looks like if you go 20 40,
you're talking-- that's still, like, 35% the population, 1/3 or something.

Ira Glass

So that means that out 300,000 women, that leaves 100,000 his
age range. These being doctoral students, they wanted girlfriends who were college grads. Well,
OK. 25% Americans over 25 years old have graduated from college. That
knocks roughly 3/4 these women.

David Kestenbaum

Ouch.

Ira Glass

So you're down -- we were 100,000. So you're down 25,000.

David Kestenbaum

Then you start applying stuff like how often are they single.

Ira Glass

Yeah. Let's say half them are single. So now you're down 12,500.

David Kestenbaum

Yeah. See, it's getting scary now, right?

Ira Glass

And then, of course, you get to how many people are actually attractive you. And even if you give a really high percentage like one five, that knocks your pool candidates from 12,500 to 2,500.

David Kestenbaum

Ugh. the whole city Boston, right?

Ira Glass

Yeah.

David Kestenbaum

That's just like a needle a haystack.

Ira Glass

And that 2,500 is before you get anything personal like your religion or how you see the world, what's your sense humor. So Dave and his fellow students are talking about this, these rather kind of depressing numbers. And one of their professors comes .

David Kestenbaum

She's not married either. And so we start to draw it for her. And then we started to say, well, OK, half them are men. So we'd circle half. And then we'd say, well, what's the age group you're interested ? And then we'd sort of circle a smaller subset. And then she had

all these other requirements like the guy had to be taller than her. And she's pretty tall. So that really limited things. And then she said he had to be smarter than her. And she's a Harvard physics professor, so that was even smaller. And basically we got to there being nobody.

[LAUGHTER]

David Kestenbaum

She's alone.

Ira Glass

During this period of your life when you would think about these numbers, were you sure the entire time that there was somebody there?

David Kestenbaum

Yeah. I don't know why. But at the beginning of every mathematical proof people often write, assume that there exists x . [LAUGHS]. Assume we have an infinite surface bound by something or whatever.

Ira Glass

Right.

David Kestenbaum

It's like assume there exists some girlfriend. There's totally that act faith underneath it, yeah. But I had a more scientific view, which is that there are people there who might be right for me, not just one person. That seemed like in a silly novel or something, you know?

Ira Glass

Yeah.

David Kestenbaum

I don't believe there's just one. If there were just one person there, good luck. They could speak Chinese. They probably do, right? What are the odds you're going to find them and the translator? You gotta believe there's more than one person.

Ira Glass

Well, today our program, stories people who dare to believe that they have found that one person for them. Even if it is just a pleasant lie that there is just one person out there for each of us, they have chosen to believe that they need to look no further, and then they act on that belief. Doing some things-- I have to say-- I bet you have never heard of people doing, and they do these things because they just cannot stop themselves. Like every country song ever written would tell you, they have got no choice.