



Show-Me

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Literacy...

KISS MY MATH

By Danica McKellar

About The Book

From bestselling author Danica McKellar, *KISS MY MATH* makes pre-algebra a cinch, Hollywood-style! With *Math Doesn't Suck*, actress and math genius Danica McKellar made waves nationwide, challenging the "math nerd" stereotype—and giving students the tools to ace tests and homework in her unique *just-us-girls* style. Now, in *Kiss My Math*, Danica empowers a new crop of girls, taking on the next level in the math curriculum: Pre-algebra. Stepping up not only the math but also the sass and style, *Kiss My Math* will help math-phobic teenagers everywhere *chill out* and finally get negative numbers, variables, absolute values, exponents, graphing, and more—concepts essential for algebra and beyond. Each chapter features:

- Easy to follow, step-by-step instruction
- Time-saving tips and tricks for homework and tests
- Illuminating practice problems with detailed solutions
- Real-world examples that teens can relate to!
- True stories from Danica's own life as a math student and actress



Kiss My Math also includes a unique "Math Test Survival Guide" to help students conquer jitters and excel at test-taking—a skill unto its own. Plus, fun extras inspired by today's teen magazines—including personality quizzes, reader polls, and real-life testimonials—ultimately revealing why pre-algebra is easier, more relevant, and more glamorous than readers think. With Danica as personal tutor and coach, girls everywhere can stop *dreading* pre-algebra and watch their scores rise!

The mission of the "Show -Me Literacy Newsletter is to provide professional information-sharing, resources and news about adult education and literacy.

Excerpt: Kiss My What?

"Math? Are you kidding me?"

In high school, a teacher once suggested that I be a math major in college. I thought, "Me? You've got to be joking!" I mean, in junior high, I used to come home and cry because I was so afraid of my math homework. Seriously, I was *terrified* of math.

Things had gotten better for me since then, but still—college math? That sounded really hard; I didn't think I could hack it. Besides, *who* studies math in college other than people who want to be math teachers, right?

Boy, was I *wrong*. Just ask my friend Nina.

In college, Nina wanted to be a doctor more than anything in the world. She'd always wanted to deliver babies! She was smart, funny, and totally capable of doing whatever she set her mind to—until she found out that calculus was a required course. The idea of taking calculus scared her so much that she dropped out of the pre-med program and gave up her dream!

And Nina isn't the only one. Believe it or not, lots of people change their majors and abandon their dreams just to avoid a couple of math classes in college.

So, what does "Kiss My Math" mean?

It means: "Um, excuse me, I'm going to do whatever I want with my life, and I'm sure as heck not going to let a little *math* get in my way."

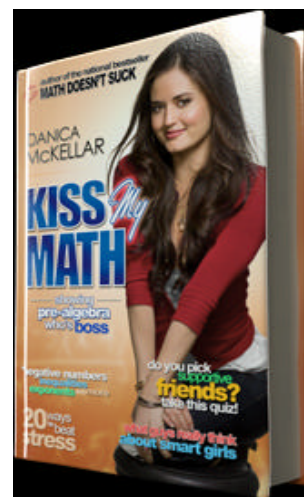
Who knows what you'll do? Armed with math, you might become a cutting-edge scientist and develop your own line of all-natural makeup or therapeutic high heels. You might discover a cure for cancer or travel into space. You might create some cool engineering trick that destroys trash or creates super clean energy and saves the planet!

Something else, perhaps? Doctor, lawyer, clothing designer, architect? Maybe you'll work for a big magazine or your favorite fashion line, or maybe you'll start your own business.

Believe it or not, all of these fabulous careers use—that's right—*math*.

Check out Stephanie Perry, Jane Davis, and Maria Quiban's real-life testimonials on pp. 37, 71, and 128 to see how studying mathematics gave these ladies a leg up on their competition in the worlds of television, fashion, and magazines. Betcha never knew math could give you power and freedom in *those* areas.

And if anyone tells you it's impossible to be fabulous and smart and make a ton of money using math, well, they can just get in line behind you—and kiss *your* math.



Personal Message From Danica

This book covers the next step up in pre-algebra, and so as the math gets harder, you get an opportunity to use the math to make your brain even stronger. Just know that I'm in your corner every step of the way. I'm excited for you, and I know we can do it, together!



Reviews and Quotes

"Every page of this winning book is lively and interesting, filled with quotes from teenagers about their successes in math, zippy little drawings, and short-cuts for solving even the thorniest math problems."

—**The Boston Globe**

"Danica McKellar has a message for girls: Cute and smart is better than cute and dumb."

—**The Associated Press**

"McKellar is probably the only person on primetime television who moonlights as a cyberspace math tutor."

—**The New York Times**

"It's really hard to put the book down, it's so delightfully written... The real power of the book is actually in these memorable analogies and in the very friendly tone she uses all through the book. She's talking to a friend, and it makes you to just keep reading!"

—**Home School Math Blogs**

"For everyone having trouble with math, get this down-to-earth book that will pull your grades up and intrigue even the most reluctant student."

—**The New Mexican**

"At the end of the book is a "Math Test Survival Guide," which may be worth the price of the book in itself."

—**Let's Play Math Blogs**





Solution Guide for Chapter 2

Here are the solutions for the “Doing the Math” exercises in *Kiss My Math!*

DTM from p.27

2. $-39 + (39 + 58) = ?$

The only operation here is addition (that negative sign is not subtraction, it’s just a negative number), so we use the associative property of addition, and shift the parentheses over, to make this problem easier: $(-39 + 39) + 58$. The inside of the parentheses now equals 0, so we’re left with 58.

Answer: **58**

3. $(9 \times 2) \times 5 = ?$

Since the only operation here is multiplication, we can use the associative property of multiplication to regroup the terms like this: $9 \times (2 \times 5)$. The inside of the parentheses equals 10, and $9 \times 10 = 90$, easy!

Answer: **90**

Sparky and the Meaning of Subtracting Negatives

Here's a wacky, totally different way to think about subtracting negatives.

(See the "What's the Deal" on p.48 of *Kiss My Math* for an easier way of thinking of it, but which requires understanding multiplication of negative numbers.)

On p.11 in *Kiss My Math*, I told you that we can only think about combining integers as walking up and down the number line when we have *addition* between the terms. I recommend always changing subtraction into "adding a negative," so that should take care of it, right? Not quite...How about a problem like $4 - (-3) = ?$

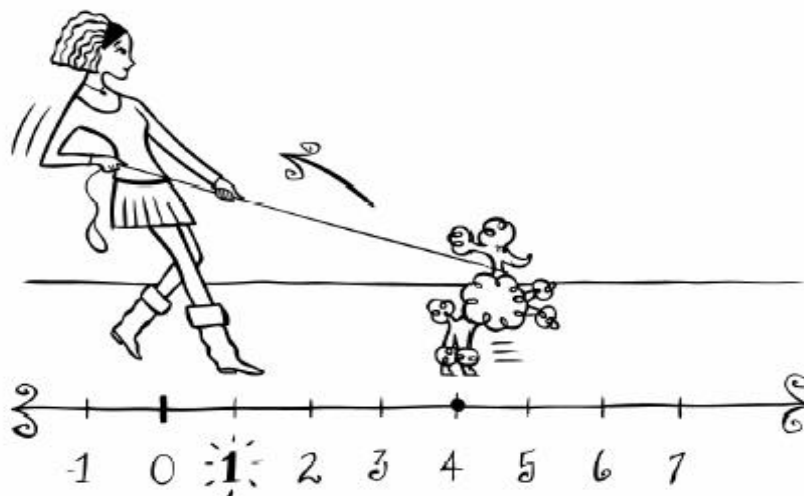
On p.11, I showed you the shortcut, where the two negative signs cancel to make a positive + sign, but why does that work?

How can we *think about* subtracting a negative number? What does that even mean?

Let's pretend we don't have that shortcut, and see how we can use the number line after all.

Don't say I didn't warn you, though - it's pretty wacky!

Let's go to the number line. For the moment, I want you to think of numbers not as "things" but as "movements." So when you see "3" or "+3", it means "move in the positive direction 3 steps" and if you see "-3" it means "move in the negative direction 3 steps." And do you remember using the phrase "take away" to mean "subtract" in elementary school? We're going to use it again! Consider the normal subtraction problem: $4 - 3 = 1$. In other words, 4 "take away" 3, equals 1.



Imagine you're walking your dog Sparky up the number line, in the positive direction, and he's gotten to 4, but then you pull *back* on his leash, moving him 3 steps in the negative direction, so he ends up at the "1." That's $4 - 3 = 1$.

Now, if he had simply walked, on his own, from 4 to 1, then you might say he walked in the negative direction 3 steps. We could write that in math: $4 + (-3) = 1$. But it's a sad story for Sparky, because he really wanted

to chase a squirrel that was hanging out somewhere around 10. Sparky was about to start walking in the positive direction, towards the squirrel, and when you gently pulled back on his leash to protect the squirrel, you were taking something away from Sparky. From his perspective, you were “taking away” his positive movement from 1 to 4. To Sparky, this felt more like subtraction: $4 - (+3) = 1$. So, emotionally speaking, there are two ways to think about Sparky’s movement. Mathematically, we can represent these two different perspectives of the same movement:

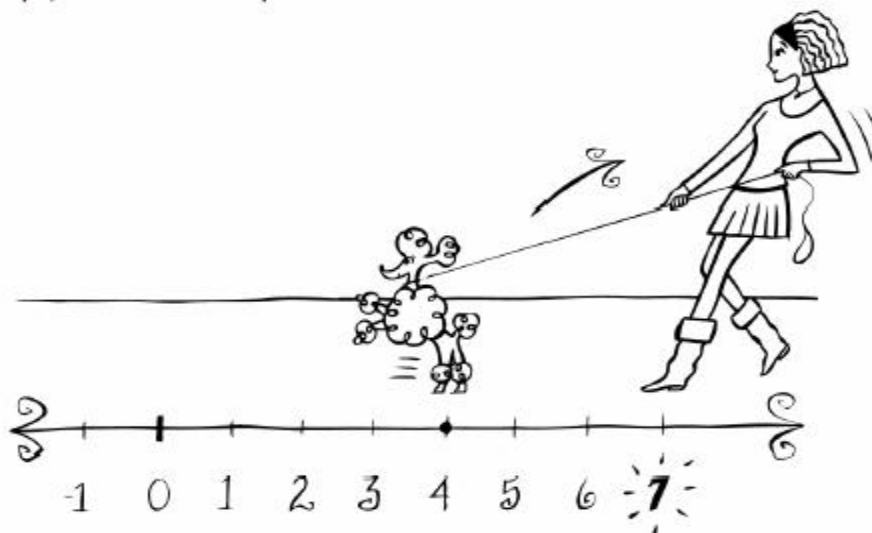
$$4 + (-3) = 1 \quad \text{vs.} \quad 4 - (+3) = 1$$

walking ↗
↖ in a negative direction
↗ taking away
↖ positive movement

So: Walking in the negative direction is the same as “taking away” movement in the positive direction.

I know that was a lot of fuss over the simple problem $4 - 3 = 1$, but it’ll help us with this next one!

Now, let’s consider a slightly different situation. Now let’s say Sparky is standing on the 4, but this time he’s facing the negative direction – he just saw a mailbox he wants to pee on, over by the origin. He’s about to start walking in the negative direction, and you want to stop him from even *thinking* about it. To do this, you gently pull Sparky’s leash back 3 steps, and he ends up at the 7.



Again, there are two ways to think about Sparky’s movement. If Sparky had willingly walked from the 4 to the 7, he would have *walked in the positive direction 3 steps*. That sounds like the addition problem: $4 + 3 = 7$.

But from Sparky's point of view, something was taken away from him: his negative progress from 7 to 4! He wanted to move in the negative direction, and you stopped him from doing it. So, you took away negative movement. That's the subtraction problem: $4 - (-3) = 7$, isn't it? Mathematically, again we can represent these two different perspectives of the same movement:

$$4 + 3 = 7 \text{ vs. } 4 - (-3) = 7$$

↑ walking
↑ in a positive direction
↑ taking away
↑ negative movement

So, oddly enough, **taking away movement in the negative direction is the same thing as walking in the positive direction.** In other words, *subtracting a negative number is the same as adding a positive number.*

By the way, this stuff can be tough to wrap your mind around!
 Try reading this Sparky example again after you've read Chapter 3 in *Kiss My Math*, and let it settle in your brain over time...



And here's the Shortcut from p.11:



Shortcut Alert: Subtracting Negative Numbers

When we are asked to *subtract a negative number* like this: $10 - (-5)$, we can just change the two negatives into a positive plus sign! So: $10 - (-5) = 10 + 5 = 15$. Now that's what I call a shortcut.

When the minus sign and the negative sign are next to each other like that, it's almost like one of them turns on its side and moves over until they're touching. Together they create the shape "+". It's a very special moment for the two of them.

$$- \quad - \quad \rightarrow \quad +$$