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SundayReview | OP-ED COLUMNIST

Are You Smarter Than an 8th Grader?

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I AM afraid you're eligible to read this column only if you can answer this question faced by eighth graders around the world:

What is the sum of the three consecutive whole numbers with $2n$ as the middle number?

A. $6n+3$

B. $6n$

C. $6n-1$

D. $6n-3$

More than three-quarters of South Korean kids answered correctly (it is B). Only 37 percent of American kids were correct, lagging their peers from Iran, Indonesia and Ghana.

We know Johnny can't read; it appears that Johnny is even worse at counting.

The Educational Testing Service released a global report finding that young adults from the United States rank poorly in reading but are even worse in math — the worst of all countries tested. This is the generation that will be in the labor force for the next half-century, struggling to compete with citizens of other countries.

It's not just that American results are dragged down by poverty. Even American millennials with graduate degrees score near the bottom of international ranks in numeracy.

We interrupt this column for another problem:

How many degrees does a minute hand of a clock turn through from 6:20 a.m.

to 8 a.m. on the same day?

A. 680 degrees

B. 600 degrees

C. 540 degrees

D. 420 degrees

Only 22 percent of American eighth-graders correctly answered B, below Palestinians, Turks and Armenians.

In a recent column, I offered a paean to the humanities. But it's also true, as a professor notes in a letter to the editor, that science majors do take humanities courses. In contrast, humanities majors often desperately avoid any semblance of math or science (except for classes like "Physics for Poets").

Numeracy isn't a sign of geekiness, but a basic requirement for intelligent discussions of public policy. Without it, politicians routinely get away with using statistics, as Mark Twain supposedly observed, the way a drunk uses a lamppost: for support rather than illumination.

(I believe American high schools and colleges overemphasize calculus and don't sufficiently teach statistics. Statistical literacy should be part of every citizen's tool kit.)

Public debates often dance around basic statistical concepts, like standard deviation, because too few Americans understand them. And people assume far too much of "averages."

After all, American adults have, on average, one ovary and one testicle. But try finding such an "average person."

Another pop quiz:

A piece of wood was 40 centimeters long. It was cut into 3 pieces. The lengths in centimeters are $2x - 5$, $x + 7$ and $x + 6$. What is the length of the longest piece?

Only 7 percent of American eighth graders got that one right (the answer is 15 centimeters). In contrast, 53 percent of Singaporean eighth graders answered correctly.

I know many readers will grudgingly protest that they're just not good at math! True, there are math prodigies who are different from you and me. When the great mathematician Carl Gauss was a young boy, his teacher is said to have asked his class to calculate the sum of all the numbers from 1 to 100. Gauss supposedly supplied the answer almost instantly: 5,050.

The teacher, flabbergasted, asked how he knew. Gauss explained that he had added 1 and 100, 2 and 99, and realized that there would be 50 such pairs each summing 101. So 50 times 101 equals 5,050.

So I agree: Let's resent the Gausses of the world for being annoyingly smart. But let's not use that as an excuse to hide from the rigor of numbers. Countries like Singapore manage to impart extraordinary math skills in ordinary children because they work at it.

Numeracy isn't just about numbers, of course. It's also about logic. Let me leave you with a logical puzzle — a family favorite, one that I first heard as a little kid — that isn't mathematical at all. Yet people with math training seem better at thinking it through and solving it:

You're in a dungeon with two doors. One leads to escape, the other to execution. There are only two other people in the room, one of whom always tells the truth, while the other always lies. You don't know which is which, but they know that the other always lies or tells the truth. You can ask one of them one question, but, of course, you don't know whether you'll be speaking to the truth-teller or the liar. So what single question can you ask one of them that will enable you to figure out which door is which and make your escape?

It's not a trick question. When you hear the answer, you'll see it's straightforward. First reader who doesn't know this problem, works it out and tweets me the correct answer or posts it on my Facebook page gets a signed copy of my latest book or a Saddam Hussein poster that I liberated in Iraq during the war there. I've posted the answer on my blog, but you won't need the help, will you?

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