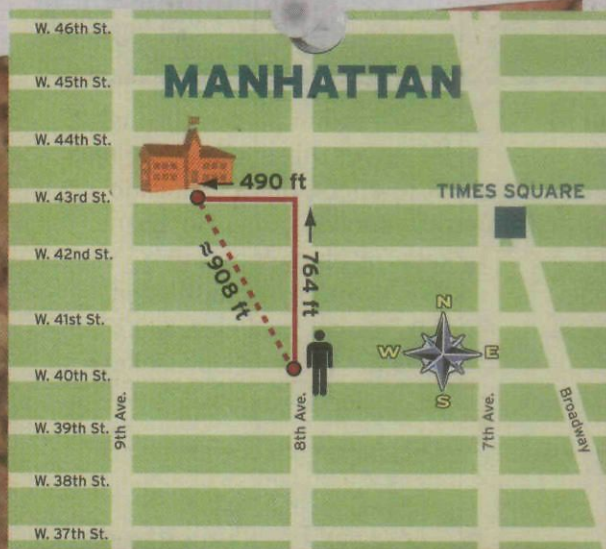


GEOMETRY



Evidence: Photo A



DRUG-FREE
SCHOOL
ZONE

Evidence: Photo B

A Bit Less Than the Sum of Its Parts

How lawyer Deborah L. Morse used the Pythagorean theorem to keep a criminal behind bars. *by Clyde Haberman*

Drug dealing has not done James Robbins much good, unless you consider his current 6-to-12-year stretch in New York prisons a sign of success. On the possibility that he may want to try a new line of work when he gets out, here's an unsolicited thought:

Apply to the city's Department of Education. It might want someone with experience to talk to students about the importance of learning mathematics. Mr. Robbins, whose specialty is the Pythagorean theorem, could be especially helpful in this regard....

...He had time added to his prison sentence because he was found guilty of selling drugs within 1,000 feet of a school: Holy Cross, on 43rd Street between Eighth and

Ninth Avenues in Manhattan. Mr. Robbins, 40, was arrested at 40th and Eighth.

Through his lawyer, he argued that the distance from that corner to the school should be measured along the path a person would follow on foot. You can't go in a straight line because buildings stand in the way. Walking up Eighth (764 feet), then going west on 43rd to Holy Cross (490 feet), you form a right angle, and travel 1,254 feet. The 1,000-foot rule is thus not broken.

Nice try. But it received raspberries from the state's highest court, the Court of Appeals. Unanimously, the judges sided last week with Deborah L. Morse, an assistant district attorney in Manhattan.

Ms. Morse says she is no great shakes at math, but she

Continued on Next Page

knows her Pythagoras. She argued—and the court agreed—that the correct way to calculate the distance from Mr. Robbins's corner to the school is indeed along a straight line. In effect, that line forms the hypotenuse of a right triangle. If you take the sum of the squares and so on and so forth, the length of this hypotenuse comes to 908 feet.

Goodbye, Mr. Robbins.

But one day he will presumably be freed, and that is why it is suggested he start his life anew at the Education Department. Who better to tell young people about the enduring relevance of mathematical concepts like the Pythagorean theorem?

It beats advising them that to sell drugs, they would be wise to

move south a couple of hundred feet, to 39th and Eighth, where their main worry would be an undercover cop and not a hypotenuse.

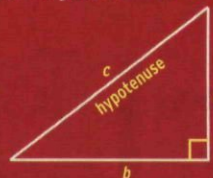
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WHAT TO DO

Using the Pythagorean theorem, find the length of the missing side for each right triangle described below. Circle the word next to the correct answer. Write that word in the blank above the question number. You'll complete a special quote from the hero of the article, Assistant District Attorney Deborah L. Morse!

One Way to Do It PYTHAGOREAN THEOREM

The *Pythagorean theorem* is named after the Greek mathematician Pythagoras, who lived about 2,500 years ago! The theorem states that in any right triangle, with sides of lengths a , b , and c (c being the *hypotenuse*, the side across from the right angle): $a^2 + b^2 = c^2$



Example: In a right triangle, $a = 3$ inches and $b = 4$ inches. Find c .

- ✓ $3^2 + 4^2 = c^2$
- ✓ $9 + 16 = 25$
- ✓ $c^2 = 25$
- ✓ $c = 5$ inches

Evidence File

All measurements are in feet. In a right triangle where...

- | | | |
|---------------------------|--------------------|---------------------|
| 1 $a = 8, b = 6, c = ?$ | 10 the | 100 law |
| 2 $a = 20, b = 21, c = ?$ | 41 order | 29 that |
| 3 $a = 5, c = 13, b = ?$ | 8 movies | 12 the |
| 4 $b = 10, c = 26, a = ?$ | 24 of | 16 judge |
| 5 $b = 20, c = 25, a = ?$ | 15 team | 5 arrested |
| 6 $a = 14, b = 48, c = ?$ | 52 steals | 50 community |
| 7 $a = 45, b = 60, c = ?$ | 75 part | 25 very |
| 8 $c = 34, a = 30, b = ?$ | 16 protects | 27 night |

MATH Magazine asked Deborah Morse what one of the best things about her job is. She told us, "As an assistant district attorney, I get to be a..."

7

4

1

5

2

8

3

6

"

Activity by Jessica Perlman

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