

Hi, I'm Greg. I'm a tutor in NYC! I love helping students. I tutor many subjects, assist with homework help, etc. I mainly specialize in specialized/standardized tests.

What is this? I don't always have time to do a livestream, therefore instead I thought it would be fun to do a Problem Of The Day series. In this series I will put up a problem and you guys will then analyze it, and come up with possible solutions and alternative solutions on your own. I'll eventually post the answer. In the past this has resulted in many interesting discussions. Some questions will be easy, others hard, some perhaps with a twist, some will be SHSAT 8 oriented while some SHSAT 9 oriented.

I'll leave a problem up for about an hour, however depending upon the dynamics and complexity of the question it could be much longer. Unlike my AMA (Ask Me Anything) livestream sessions, I may not always be able to join in the discussion. Again, the idea is for you guys to discuss things out.

Please be respectful in this endeavor. Let's keep this fun, educational, and forward-thinking. Keep your comments within this spirit. If needed, feel free to email me at [GregsTutoringNYC@gmail.com](mailto:GregsTutoringNYC@gmail.com). Past questions are at <https://www.GregsTutoringNYC.com/POTD>

HERE'S THE PROBLEM: <—

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Point Y is between Point X and Point Z on a line.

In particular, X and Z are the endpoints to the diameter of a circle.

The length  $\frac{10}{9} XY$  is the same as the length XZ. The length XY is 90 centimeters.

How far is point Y from the origin of the circle?

A. 5 cm B. 10 cm C. 20 cm D. 40 cm

HERE'S THE SOLUTION:

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$XY = 90$

$\therefore XZ = \frac{10}{9} XY = \frac{10}{9} 90 = 100 \therefore$  the diameter is 100cm

$\therefore YZ = XZ - XY = 100 - 90 = 10\text{cm}$

The origin is 50 units from each endpoint X and Z.

$\therefore 50 - 10 = 40\text{cm}$  (this is the answer)

Point Y is 90cm from point X, 10cm from Point Z, and 40cm from the origin.

- Greg / [GregsTutoringNYC@gmail.com](mailto:GregsTutoringNYC@gmail.com) LLAP ☺