

Team Relay 2007

Part 1: The length of a rectangle is 6 units. The area of the rectangle is numerically equal to its perimeter. The area of the rectangle is A square units. Find A .

Part 2: Find B such that $\sqrt{A-2B} = \sqrt[3]{A+9}$

Part 3: Find C when $(6-C)^2 = (C+B-0.5)^2$

Part 4: If $\tan \theta = \frac{C}{3}$, and $0^\circ < \theta < 90^\circ$, find the exact value of D where $\csc^2 \theta = D$.

Answers:

$$A = 18, B = \frac{9}{2}, C = 1, D = 10$$