

MATHCOUNTS 2019–2020 Fall Newsletter Poster Solution



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IN THE FIRST 10.5 FT OF A DIVE, ROSA USED
 $\frac{2}{3}$ UNIT/FT
OF OXYGEN. IN THE NEXT 28 FT SHE USED
35 UNITS.
IN THE LAST 3.5 FT SHE USED
4 UNITS/FT.

HOW MANY INCHES, ON AVERAGE, DID ROSA DIVE PER UNIT OF OXYGEN USED?

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Rosa dives a total of $10.5 + 28 + 3.5 = 42.0$ ft, or $42 \times 12 = 504$ inches. For the first 10.5 ft, she used $10.5 \text{ ft} \times \frac{2}{3} = 7$ units of oxygen. We are told that she used 35 units of oxygen for the next 28 ft of her dive. For the final 3.5 ft, she used $3.5 \times 4 = 14$ units of oxygen. So, in total, Rosa used $7 + 35 + 14 = 56$ units of oxygen. Therefore, on average, Rosa dove $504/56 = 9$ inches per unit of oxygen used.