PHYS 408

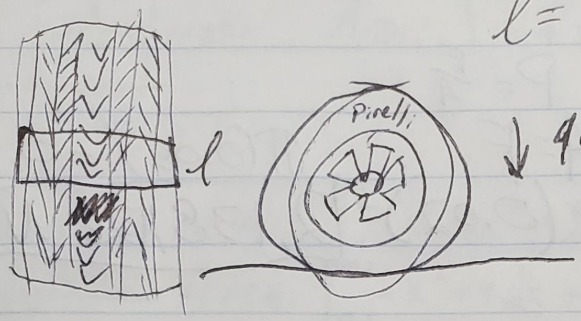
9 September

1.

900 lb each tire

$P = 30$ psi

$l = ?$ $w = 8$ in / 205 mm



↓ 900 lbs

$P = \frac{F}{A}$

$\frac{30}{1 in^2} = \frac{900}{8x}$

$\frac{30}{1} = \frac{900}{8x}$

$\frac{240x}{240} = \frac{900}{240}$ $x = 3.75$

$\boxed{3.75 \text{ in}}$

2.

$12.5 + 14.7 = 27.2$

$\frac{27.2}{294 K} = \frac{x}{248 K}$

$x = 22.9$

$\boxed{8.2 \text{ psi}}$

4. $P_b = P_t + \rho g h$

$P_t = 101{,}300$ Pa

$\rho = 1000$ Kg/m³

$g = 9.8$ m/s²

$h = 332.2$ m

$101{,}300 + 1000(9.8)(332.2)$

$= \boxed{3{,}356{,}860 \text{ Pa}}$

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3. $P_b = P_t + \rho g h$

$P_t = 101,300$

$\rho = 1000$

$g = 9.8$

$h = 10,900$

$101,300 + 1000(9.8)(10,900)$

$= 106,921,300$ Pa

$P = \frac{F}{A}$

$PA = F$

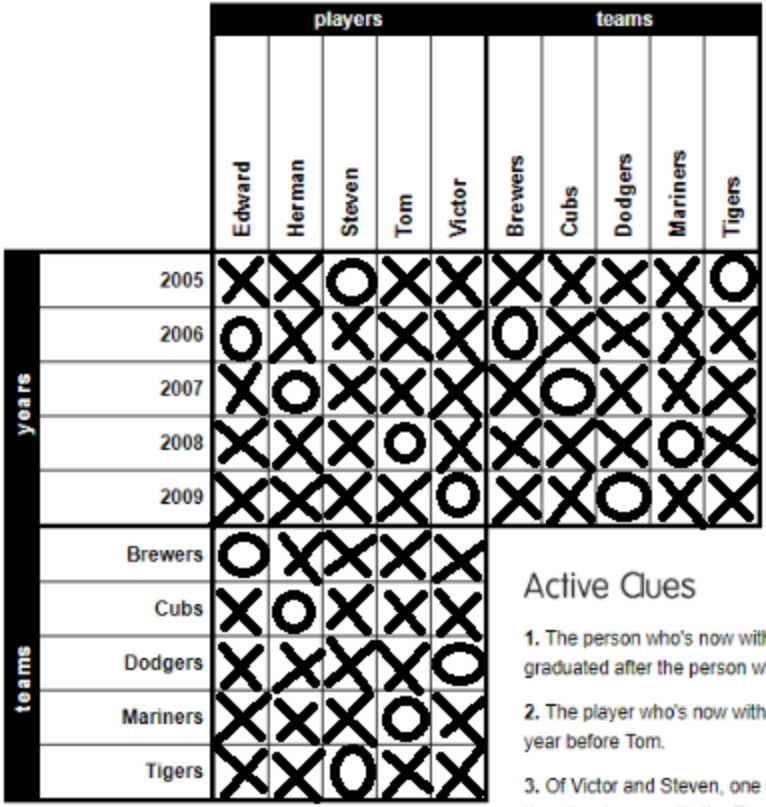
$\pi(0.08)^2 = 0.02\ m^2$

$106,921,300\ (0.02) = \boxed{2,138,426\ N}$

$101,300\ (0.02) = 2,026\ N$

5.

Most of the public does not know how to interpret science, whether it is about cold footballs or a yet to be peer-reviewed study that is toughted as fact. This misunderstanding has led to both the mistrust and over-certainty of members in the scientific community by the general populus. The only way to fix this imbalance is to have a more educated population with critical thinking skills.



Backstory And Goal

Sid Carter has been the head coach of Daleville University's baseball team for two decades, and several of his players have gone on to the majors. Match each former player to his hometown and graduation year, and figure out which major league team he's now playing for.

Remember, as with all grid-based logic puzzles, no option in any category will ever be used more than once. If you get stuck or run into problems, try the "Clear Errors" button to remove any mistakes that might be present on the grid, or the "Hint" button to see the next logical step in the puzzle.

Active Clues

1. The person who's now with the Brewers graduated after the person who's now with the Cubs.

2. The player who's now with the Cubs graduated 1 year before Tom.

3. Of Victor and Steven, one graduated in 2009 and the other is now with the Tigers.

4. The person who's now with the Cubs graduated after Edward.

5. The person who graduated in 2009 is now with the Dodgers.

6. Edward graduated after Steven.