

$$\rho(S, T, p) = \rho(S, T, 0) / \{ 1 - p / K(S, T, p) \}$$

$$\begin{aligned} \rho(S, T, 0) = & \rho_w + S(0.824493 - 4.0899 \times 10^{-3}T + 7.6438 \times 10^{-5}T^2 - 8.2467 \times 10^{-7}T^3 \\ & + 5.3875 \times 10^{-9}T^4) \\ & + S^{3/2}(-5.72466 \times 10^{-3} + 1.0227 \times 10^{-4}T - 1.6546 \times 10^{-6}T^2) \\ & + 4.8314 \times 10^{-4}S^2 \end{aligned}$$

$$\begin{aligned} \rho_w = & 999.842594 + 6.793952 \times 10^{-2}T - 9.095290 \times 10^{-3}T^2 \\ & + 1.001685 \times 10^{-4}T^3 - 1.120083 \times 10^{-6}T^4 + 6.536332 \times 10^{-9}T^5 \end{aligned}$$

$$\begin{aligned} K(S, T, p) = & K(S, T, 0) + p(3.239908 + 1.43713 \times 10^{-3}T + 1.16092 \times 10^{-4}T^2 \\ & - 5.77905 \times 10^{-7}T^3) \\ & + pS(2.2838 \times 10^{-3} - 1.0981 \times 10^{-5}T - 1.6078 \times 10^{-6}T^2) + 1.91075 \times 10^{-4}pS^{3/2} \\ & + p^2(8.50935 \times 10^{-5} - 6.12293 \times 10^{-6}T + 5.2787 \times 10^{-8}T^2) \\ & + p^2S(-9.9348 \times 10^{-7} + 2.0816 \times 10^{-8}T + 9.1697 \times 10^{-10}T^2) \end{aligned}$$

$$\begin{aligned} K(S, T, 0) = & K_w + S(54.6746 - 0.603459T + 1.09987 \times 10^{-2}T^2 - 6.1670 \times 10^{-5}T^3) \\ & + S^{3/2}(7.944 \times 10^{-2} + 1.6483 \times 10^{-2}T - 5.3009 \times 10^{-4}T^2) \end{aligned}$$

$$K_w = 19652.21 + 148.4206T - 2.327105T^2 + 1.360477 \times 10^{-2}T^3 - 5.155288 \times 10^{-5}T^4$$

- (マイナス) のマークは小さいので注意してください。

単位

p は圧力(bar)で、水深(m)÷10 と同じ値でよい

T は水温で°C

S は塩分で無単位

答えの  $\rho$  は  $\text{kg/m}^3$