Task:

A colorless, odorless and tasteless gas, which is neutral to litmus paper
and 14.4 times less dense than air is

Solution:

The ratio of densities of two different gases is equal to the ratio of their molar weights.

$\rho_1/\rho_2 = MW_1 / MW_2$

The molar weight of air is 29 g/mol
$\rho_1/\rho_2 = 14.4 = MW_1 / MW_2$
$29 / MW_2 = 14.4$
$MW_2 = 29 / 14.4 = 2.01$

The only one gas has molar weight 2. It's H_2. And it is really colorless, odorless and tasteless gas, neutral to litmus paper

Answer: This gas is H_2