

Test Questions - Exam III (Part 2)

1. In a gas or liquid why does the pressure reduce with height near the surface of Earth?

2. Show that for the case of prob 1, the change in pressure is

$$\Delta P = -d g \Delta y$$

when y goes from y to $(y + dy)$, d = density of gas or liquid, $g = 9.8 \text{ m/s}^2$

3. 12-3

4. 12-5

5. 12-7

6. 13-2

7. 13-6

8. 13-3

9. 13-4

10. 13-5

11. At a constant temperature if you double the pressure in an ideal gas (in a closed container) what happens to its density? Why?

12. Why does a gas exert pressure on the walls of its container?

13. Why does steam at 100°C burn more severely than boiling water at 100°C .

14. In a monoatomic gas what is the relationship between pressure and the kinetic energy of the atoms? Why?

15. 12-10

16. 12-11