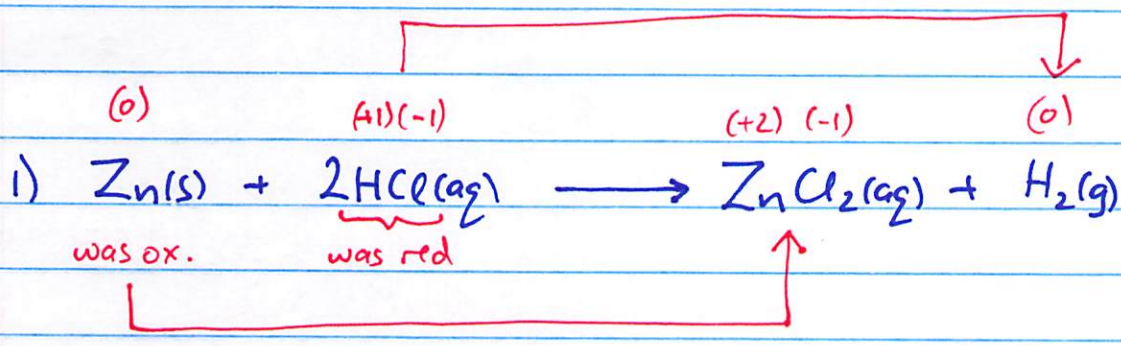
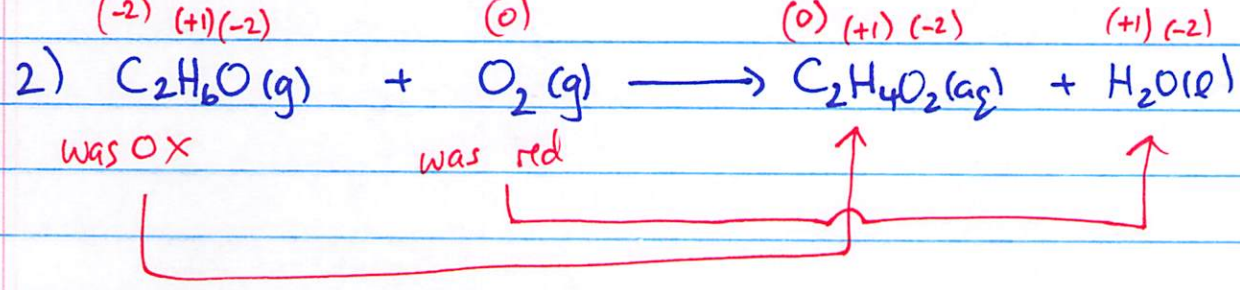
if ox: ox# ↑

10/11/2019

Assign ox #s for each atom in rxn:



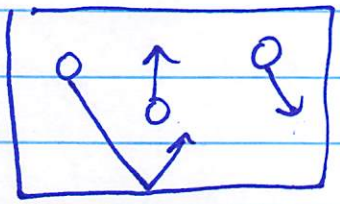
Ox agent: HCl
red agent: Zn



Ox agent: O_2
red agent: C_2H_6O

Ch 6 — Gases

state of matter where particles are far apart:

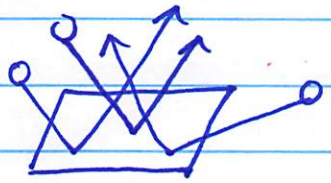


4 physical properties: $\{P, V, n, T\}$

P — pressure; V — volume; n — #mol; T — temperature.

pressure, P

(from collisions)

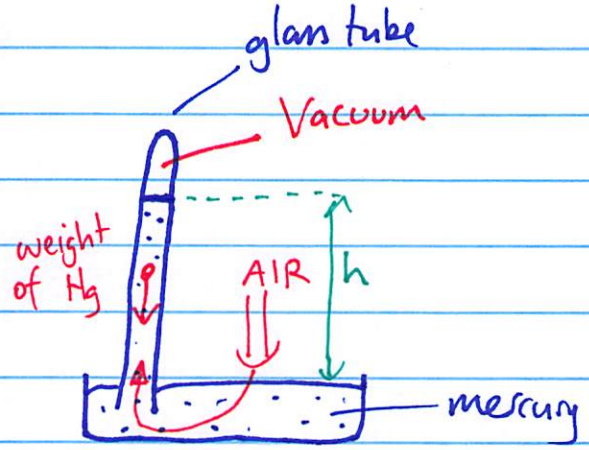


$$P = \frac{f}{A}$$

f — force; A — Area

atmospheric pressure

- measured using a barometer



Torricelli, 1643:

air pressure $\propto h$

On a typical day @ sea level

$h = 760\,mm$

1 atm = 760 mmHg = 760 torr (exact)
(atmosphere)

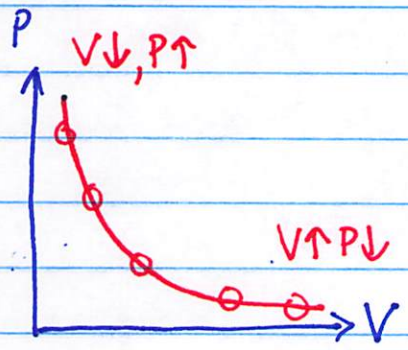
SI unit of pressure = pascal (Pa)
(international system)

$1\ Pa = 1\ N/m^2$

1 atm = 101,325 Pa = 101.325 kPa
= 14.7 psi
$\hookrightarrow lb/in^2$

Boyle's law

$p \propto 1/V$ (const n, T)



Mathematically:

$pV = \text{constant}$

for changes: $p_1V_1 = p_2V_2$