

Survey Exam

⑧ ? O atoms 1×10^{22} molecules SO_3

Flammable, combustible, Physical

H_2 (Element) $\xrightarrow{\text{Physical}}$ atom (Same prop. SMAC)

O_2 (Element) $\xrightarrow{\text{Physical}}$ atom (Same prop. SMAC)

H_2 + O_2 $\xrightarrow{\text{Chemical } \Delta}$ Compound

Compound $\xrightarrow{\text{Physical}}$ Molecule (small)

H_2O

H O N F Br O Cl I

Sep 16-7:51 AM

1×10^{22} molecules SO_3 \rightarrow ? mole O

EE 22

$\frac{\text{---}}{\text{---}} \times \text{---} = \square$

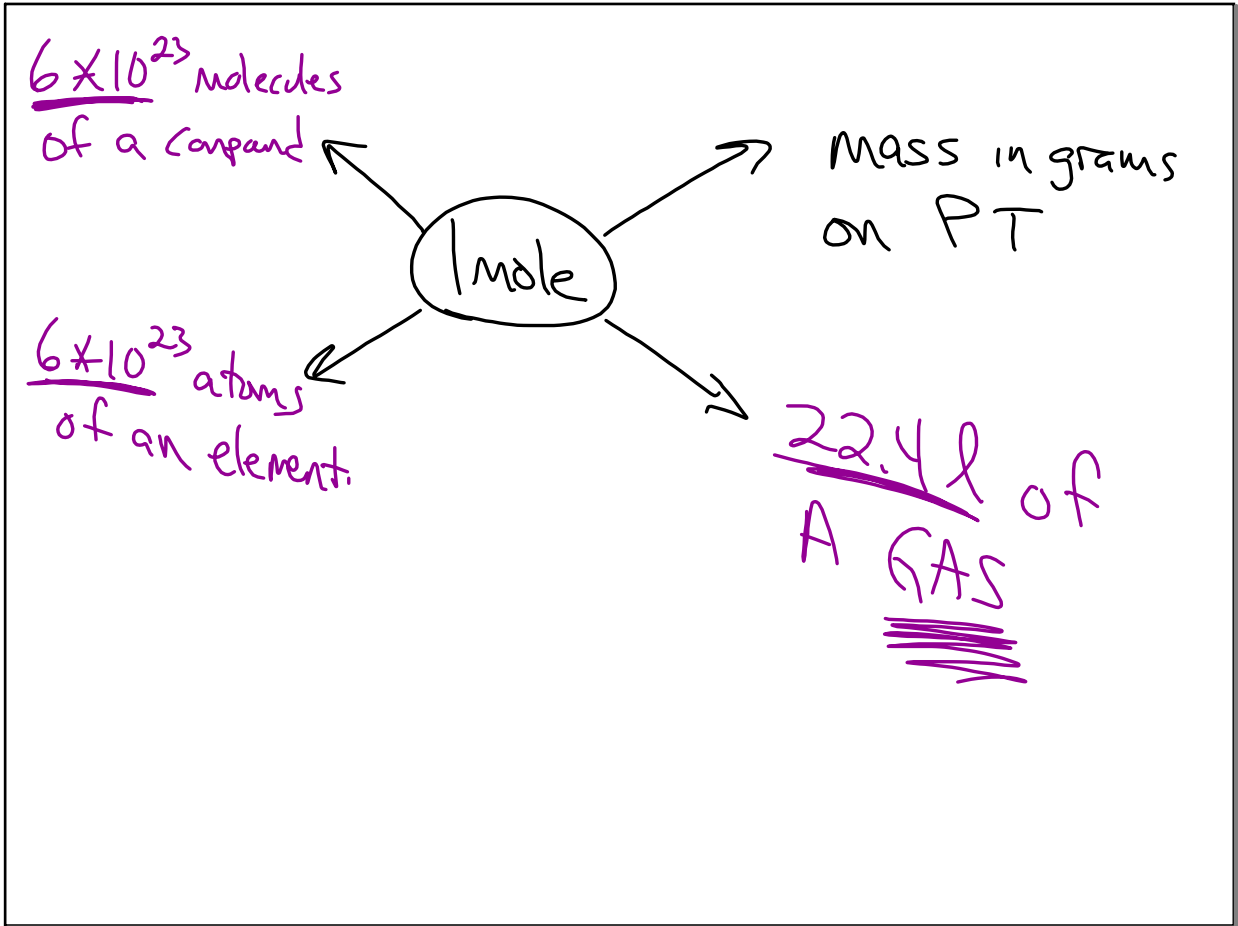
| | | |
|--|-------------------------------------|----------------------|
| 1×10^{22} molecules SO_3 | 1 Mole SO_3 | 3 moles O |
| 6×10^{23} molecules SO_3 | 1 Mole SO_3 | 3 moles O |

1 mole SO_3 \rightarrow 1 mole S, 3 moles O

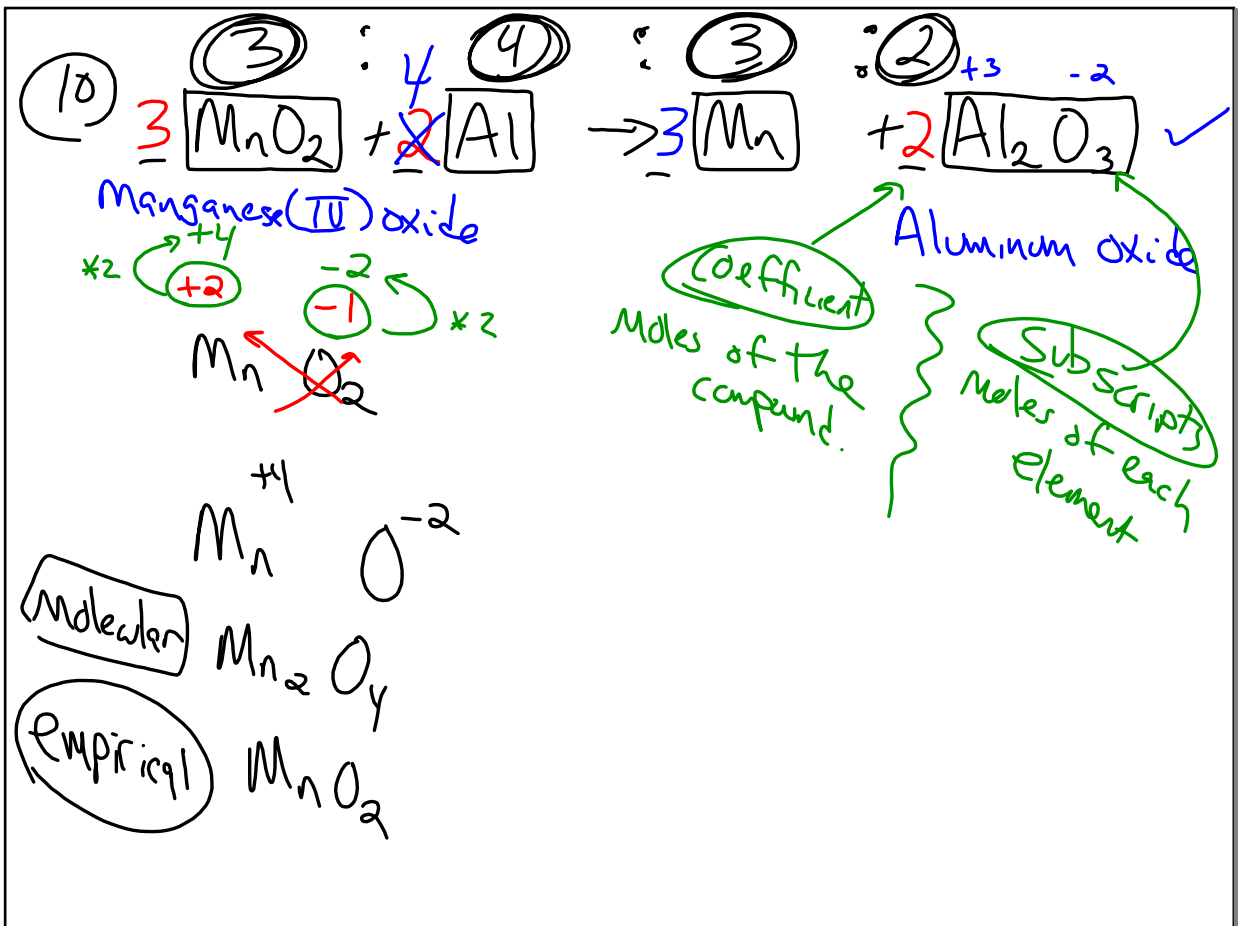
0.05 mole O

Subscripts = # moles of each element in that compound.

Sep 16-8:28 AM



Sep 16-8:35 AM



Sep 16-8:45 AM

①

Protons $\Rightarrow \Delta \# p$ ^{Atomic #}, Δ element

Electrons $\Rightarrow \Delta \# e^-$

gain \rightarrow Anion \ominus ion

lose \rightarrow Cation \oplus ion

subt e^-

Same element

Neutrons $\Rightarrow \Delta \# n$, Δ Mass (ISOTOPE)
Same element

Sep 16-9:02 AM

②

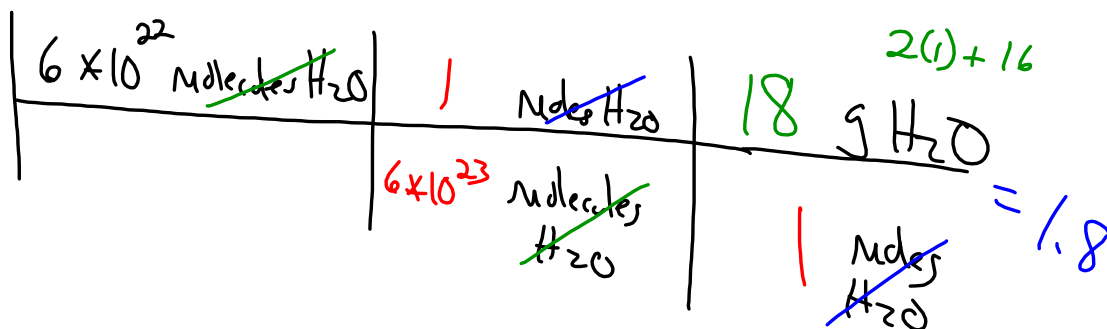
$C_5 H_8 O_2$, % by mass C

$$\% \frac{\text{Part}}{\text{Whole}} \times 100$$

$$\frac{C_5}{C_5 H_8 O_2} = \frac{5(12)}{5(12) + 8(1) + 2(16)} \times 100 = 60\%$$

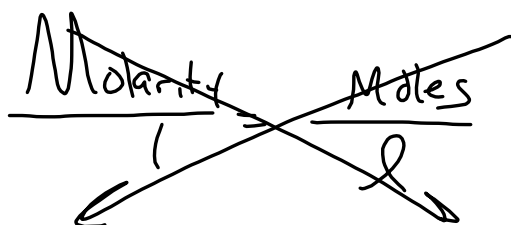
Sep 16-9:07 AM

(13) 6×10^{22} molecules $H_2O = \text{---} g H_2O$



Sep 16-9:09 AM

(14)



$\text{Moles} = M * l$

Sep 16-9:15 AM

① — ounces = 45 tons

| | | | | |
|--------------------|------------------------|----------------------|---|------------------------------|
| 45 tons | 2000 pounds | 16 ounces | = | 1,440,000 oz |
| | 1 ton | 1 pound | | <u>1.44 × 10⁶</u> |

Sep 16-9:16 AM

② 8.55 mi³ = — l

1 cc
1 cm³ = 1 ml

| | | | | | |
|----------------------|--|--|--|-------------------|---------|
| 8.55 mi ³ | (5280)³ ft³ | (12)³ in³ | (2.54)³ cm³ | 1 m ³ | l |
| | 1 ³ mi ³ | 1 ³ ft ³ | 1 ³ in ³ | 1 cm ³ | 1000 ml |

Sep 16-9:22 AM

③ $\frac{1g}{1cm^3} = \frac{? \text{ pounds}}{? \text{ gallon}}$

(Note: 'me' is written below 1cm³ with an arrow pointing to it. Red arrows indicate the flow of units from the denominator of the first fraction to the numerator of the second, and from the denominator of the second to the numerator of the first.)

| | | | |
|----------------|---------|-----------------|-----------------|
| 1g | 1 pound | 1000 | 3.78 |
| 1ml | 453.6 g | 1 | 1 gallon |

(Note: 'me' is written below 1ml with an arrow pointing to it. The word 'pound' is circled in purple, and 'gallon' is circled in purple. The numbers 1000 and 3.78 are crossed out.)

Sep 16-9:27 AM

HW

FLM P.S.

4, 5, 11, 12

Sep 16-9:30 AM