#### AP Chemistry Chapter 4 Practice Exam

The Claus reactions, shown below, are used to generate elemental sulfur from hydrogen sulfide.

 $2H_2S + 3O_2 \rightarrow 2SO_2 + 2H_2O_3$  $SO_2 + 2H_2S \rightarrow 3S + 2H_2O$ 

How much sulfur (in grams) is produced from 21.5 grams of O2? 21.5502 | mol 02 | 2502 | 35 | 32.0675 = 43.155

- A) 97.0 g
- B) 14.4 g
- C) 21.5 gD) 43.1 g
- none of these

B

Iron is produced from its ore by the reactions:

 $2C(g) + O_2(g) \rightarrow 2CO(g)$ 

 $Fe_3O_1(g) + 3CO(g) \rightarrow 2Fe(g) + 3CO_3(g)$ 

How many moles of  $O_2(g)$  are needed to produce 4.6 moles of Fe(s)?

- A) 2.3 mole O<sub>2</sub> B) 3.5 mole O<sub>2</sub> C) 4.6 mole O<sub>2</sub>
  - D) 6.9 mole O<sub>2</sub>
  - E) 13.8 mole O<sub>2</sub>

B

 Suppose the reaction Ca<sub>2</sub>(PO<sub>4</sub>)<sub>2</sub> + 3H<sub>2</sub>SO<sub>4</sub> → 3CaSO<sub>4</sub> + 2H<sub>2</sub>PO<sub>4</sub> is carried out starting with 153 g of Ca<sub>1</sub>(PO<sub>4</sub>)<sub>2</sub>

- and 76.8 g of  $H_2SO_4$ . How much phosphoric acid will be produced?

  A) 76.7 gB) 51.1 g  $153 g Ca_3 Pdq)_2 | 1m_1 (s_3 Cu)_2 | 2 H_3 Pdq$   $1 Ca_3 Cu)_3 | 1m_1 H_3 Cu_4$ (B) 51.1 g 7 6.89 H2 SOY | Ind H, SOY | 2 H2 POY 1 2 = C) 229.8 g
- D) 115.1 g
- E) 96.7 g

SO<sub>2</sub> reacts with H<sub>2</sub>S as follows:

$$2H_2S + SO_2 \rightarrow 3S + 2H_2O$$

When 7.50 g of H<sub>2</sub>S reacts with 12.75 g of SO<sub>2</sub>, which statement applies?

- A) 6.38 g of sulfur are formed.
- B) 10.6 g of sulfur are formed. C) 0.0216 moles of H<sub>2</sub>S remain.
- D) 1.13 g of H<sub>2</sub>S remain.
- E) SO<sub>2</sub> is the limiting reagent.

4.6 mil Fersi 300 102 = 3,45m0102

# **Answers For Ap Chemistry Test Open Ended**

**Georgios Tsaparlis** 

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