


Friday, March 20/15  
Science 122

 <http://mvhs-sherrard.weebly.com/>

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1. Return - Quiz - Spherical Mirrors: Ray Diagrams
  2. Check -> Ray Diagrams: Convex Ray Diagrams
  3. Concave Lens
  4. Lens Equation, Magnification and Sign Conventions
  5. Page 381 - PP #14-16  
Page 383 - PP #17-19  
  
Page 387 - Review #1, 6, 9, 10, 12, 13  
Applying Concepts #3-8  
Problems #2, 4, 5, 7, 8, 9, 10, 13, 14
  6. Experiment 37 - Image Formation by a Converging Lens  
- Review for Monday

} HW  
Old Red



C18 Page 381 - PP #14-16  
Page 383 - PP #17-19 } Lenses

Page 387 - Review #1, 6, 9, 10, 12, 13  
Applying Concepts #3-8  
Problems #2, 4, 5, 7, 8, 9, 10, 13, 14 } Lenses + Mirrors.

#2. 2.4m

#9 m = 5.0

#4. 20.0cm

#10. a) concave  
b) 32mm

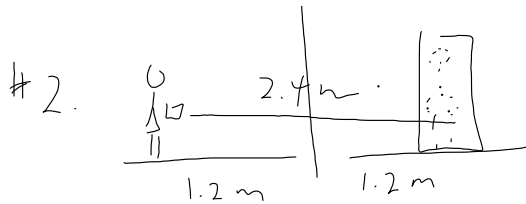
#5. 75.0cm

#7. a)  $d_i = 30\text{cm}$   
b)  $-1.8\text{cm}$

#13. a)  $d_i = 66.7\text{cm}$   
b)  $m = -1.67$

#8. a)  $d_i = -24\text{cm}$   
b)  $h_i = 9.0\text{cm}$

#14. a)  $d_i = 51\text{mm}$   
b)  $1.01\text{m}$



$$f = \frac{R}{2}$$

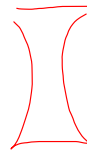
$$\frac{1}{f} = \frac{1}{d_o} + \frac{1}{d_i}$$

$$m = \frac{-d_i}{d_o} = \frac{h_i}{h_o}$$

\* sign conventions  
+ diagrams



convex



concave

Friday, March 20/15  
Physics 122/121

<http://mvhs-sherrard.weebly.com/>

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1. Return Marked Work
  2. Student Reports
  3. Check -> Worksheet - 1D Collisions
  4. Types of Collisions
  5. Worksheet - Elastic and Inelastic Collisions
  6. 2D Collisions/Explosions

Quiz U1-S2 Rewrite

- (IS) Wed.

↳ HW - Monday



# Quiz - U1-S2 (Torque + Rel. Vel)

Part 1 → MC

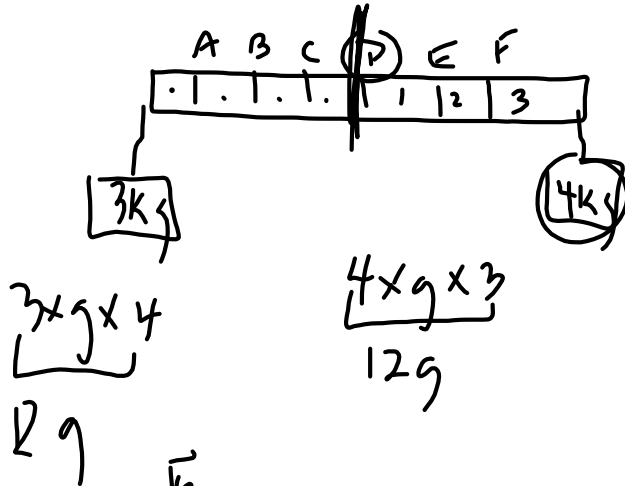
1. D

$$\begin{aligned} \vec{v}_{xG} &= +50 \text{ km/h} \\ \vec{v}_{yG} &= -30 \text{ km/h} \\ \vec{v}_{yx} &= \vec{v}_{yg} + \vec{v}_{gx} \\ \vec{v}_{yx} &= \vec{v}_{yg} - \vec{v}_{xg} \\ &= -30 - (50) \end{aligned}$$

2. C

$$\tau = r F \sin \theta$$

3. D



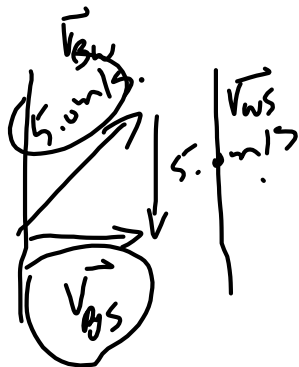
$$3 \times g \times 4$$

↓ g

$$4 \times g \times 3$$

12g

4. C



$$\sin \theta = \frac{5.0}{10}$$

$$\theta = 30^\circ$$

5. C

$$\tau = r F \sin \theta$$

$$r = 25.0 \text{ cm} \rightarrow \text{m}$$


Friday, March 20/15  
Science 10

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1. Assignment - Your Name in Chemical Symbols
    - Period 6 -> 2 Days Late Today
    - Period 4 -> 1 Day Late Today
  2. Quiz - Matter to Simple Binary Ionic Compounds
    - Monday, March 23/15
  3. Check -> Worksheet #2 - Simple Binary Ionic Compounds
  4. Polyatomic Ions
  5. Polyatomic Ionic Compounds - To Be Continued
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6. Worksheet #3 - Ionic Compounds Containing Polyatomic Ions
  7. Multivalent Metals and Their Ions
  8. Ionic Compounds Involving Multivalent Metals
  9. Worksheet #4 - Ionic Compounds Containing Multivalent Metals

**Quiz - Matter to Simple Binary Ionic Compounds**

Topics:

1. matter -> has mass and takes up space
2. physical properties -> observed with senses  
-> color, texture, odor, taste, lustre, malleability, ductility, brittleness, solubility, state of matter (solid, liquid, gas)
3. chemical properties -> ability/inability to undergo a change that alters its composition like corrosion, tarnishing, rusting, exploding
4. distinguish between physical and chemical changes
5. evidence that a chemical reaction has occurred
  - color change
  - formation of a precipitate (solid)
  - heat or light given off
  - odor produced
  - production of bubbles
  - change in temperature
6. classification of matter:
  - pure substances (elements and compounds)
  - mixtures (solutions and heterogeneous mixtures)
7. atoms -> building blocks of matter  
-> three subatomic particles:  $p^+$ ,  $n$ ,  $e^-$   
-> electrically neutral:  $\#p^+ = \#e^-$
8. atomic number = number of protons 
9. periodic table of the elements - consist of periods (rows) and groups/families (columns)
  - be able to label family and period names
  - elements are represented by chemical symbols
  - be able to draw staircase line
  - locate metals, nonmetals and metalloids

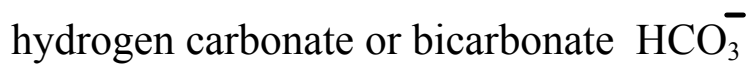
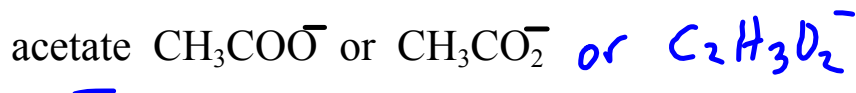
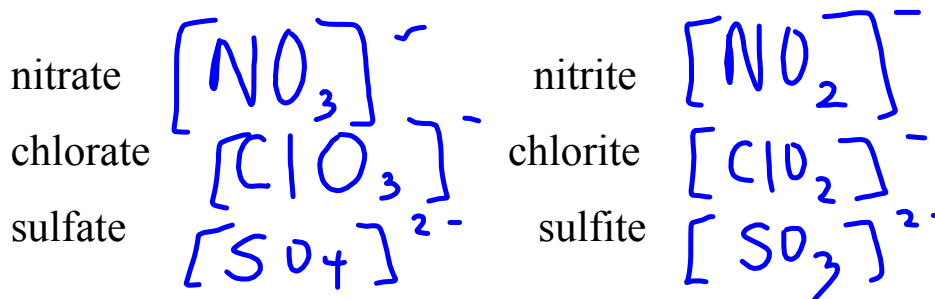
*K . Mg*
10. characteristics of metals and nonmetals
11. ions -> atoms that have gained or lost electrons
  - > cations/positive ions/metallic ions  $K^+$
  - > anions/negative ions/nonmetallic ions  $F^-$
  - > be able to state ion names, number of protons, number of electrons and ion charges
  - > be able to name monatomic ions
12. ionic bonds - formed when electrons are transferred from metals to nonmetals
13. simple binary ionic compounds - consist of 2 elements
  - electrically neutral
  - be able to name and provide chemical formulas

You will need your two periodic tables. 

## Polyatomic Ions

Poly means "many". Polyatomic means "many atoms". Polyatomic ions contain two or more different atoms. The atoms stay together as a single, charged unit.

Endings to look for: "ate", "ite"



Note: hydroxide  $\text{OH}^-$   
cyanide  $\text{CN}^-$

Note: ammonium  $\text{NH}_4^+$

**See your periodic tables for more examples.**

## Ionic Compounds Containing Polyatomic Ions

Like binary ionic compounds, ionic compounds containing polyatomic ions are electrically neutral.

When more than one polyatomic ion is required in an ionic compound, parentheses are used to enclose the ion with the subscript going outside the parentheses.

Write the correct name for:

↳ brackets ( )

1)  $\text{AlPO}_4$  aluminum phosphate  $\text{PO}_4^{3-}$

2)  $\text{KNO}_2$  potassium nitrite  $\text{NO}_2^-$

3)  $\text{Ba}(\text{HCO}_3)_2$  barium hydrogen carbonate

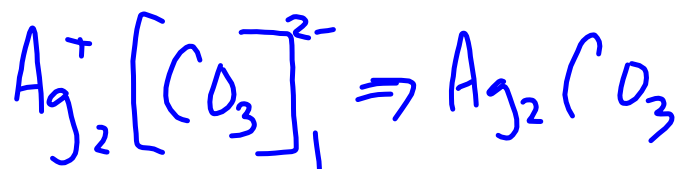
4)  $\text{Mg}(\text{OH})_2$  magnesium hydroxide

5)  $(\text{NH}_4)_2\text{SO}_4$  ammonium sulfate  
sulphate

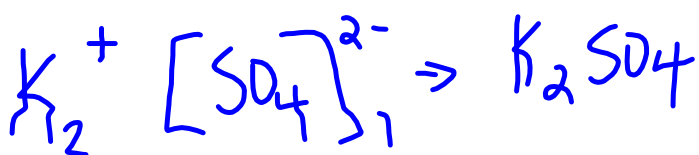


Write the correct formula for:

1) silver carbonate  
L      (A)



2) potassium sulfate  
P



3) aluminum hydroxide

To Be Continued

4) sodium hydrogen carbonate

5) calcium phosphate