**Practice Problems**

Calculate the moles present in:

1) 2.00 grams of H2O

2) 75.57 grams of KBr

3) 100. grams of KClO4

4) 8.76 grams of NaOH

5) 0.750 grams of Na2CO3

**Answers**

1) 2.00 grams of H2O

Step One: the problem gives 2.00 grams

Step Two: the molar mass of H2O is 18.015 grams/mole

Step Three: 2.00 grams ÷ 18.015 grams/mole = 0.111 mole (when rounded off to the correct number of significant figures)

The three steps, put together, look like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx1-1.GIF

Set up as a proportion, the problem looks like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx1-2.GIF

2) 75.57 grams of KBr

Step One: the problem gives 75.57 grams

Step Two: the molar mass of KBr is 119.0023 grams/mole

Step Three: 75.57 grams ÷ 119.0023 grams/mole = 0.6350 mole (when rounded off to the correct number of significant figures)

The three steps, put together, look like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx2-1.GIF

Set up as a proportion, the problem looks like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx2-2.GIF

3) 100. grams of KClO4

Step One: the problem gives 100. grams (note three significant figures)

Step Two: the molar mass of KClO4 is 138.549 grams/mole

Step Three: 100. grams ÷ 138.549 grams/mole = 0.722 mole (when rounded off to the correct number of significant figures)

The three steps, put together, look like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx3-1.GIF

Set up as a proportion, the problem looks like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx3-2.GIF

4) 8.76 grams of NaOH

Step One: the problem gives 8.76 grams

Step Two: the molar mass of NaOH is 39.997 grams/mole

Step Three: 8.76 grams ÷ 39.997 grams/mole = 0.219 mole (when rounded off to the correct number of significant figures)

The three steps, put together, look like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx4-1.GIF

Set up as a proportion, the problem looks like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx4-2.GIF

5) 0.750 grams of Na2CO3

Step One: the problem gives 0.750 grams (note three significant figures)

Step Two: the molar mass of Na2CO3 is 105.989 grams/mole

Step Three: 0.750 grams ÷ 105.989 grams/mole = 7.08 x 10¯3 mole (when rounded off to the correct number of significant figures)

Please note that 7.08 x 10¯3 can be expressed as 0.00708.

The three steps, put together, look like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx5-1.GIF

Set up as a proportion, the problem looks like this:

http://chemteam.info/Mole/Grams-to-Mole-AnsEx5-2.GIF