**Dilutions Practice**

To dilute a solution to a desired concentration, the following formula is used:

**Diluting a Solution: (M1)(V1) = (M2)(V2)**

M1 = starting concentration

V1 = starting volume

M2 = final concentration

V2 = final volume

*Use the dilution formula above to answer the following questions:*

1. If you are starting with 25 mL of 15 M nitric acid and you want to dilute it down to a concentration of 3.0 M, what should the final volume be?
2. If you had a known solution of hydrochloric acid (12M) and needed to dilute it down to make 750ml of a 0.5M solution, how many mL of the 12M acid would you need to start with?
3. If you have a beaker containing 350 mL of a 6M solution of NaOH and need to dilute it down to a 1.5 M solution, how much water should you add to the beaker?
4. How much concentrated 18 M sulfuric acid is needed to prepare 250 mL of a 6.0 M solution?

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