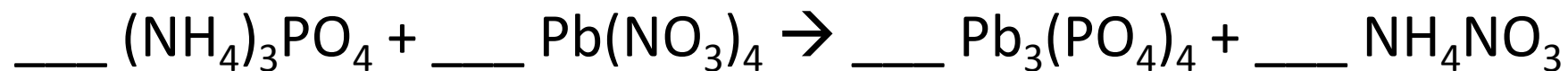


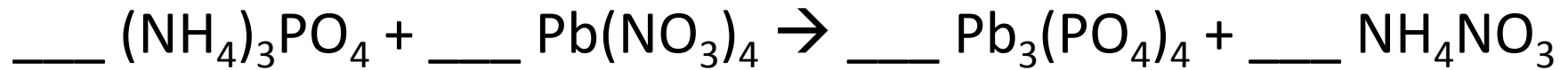
Balancing Chemical Equations

Balance the chemical reaction:

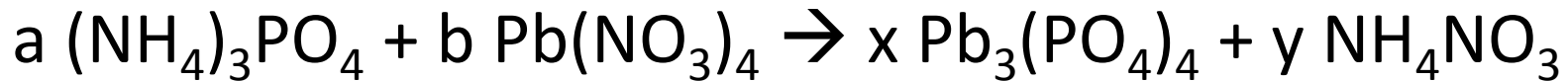


Balancing Chemical Equations

Balance the chemical reaction:



Step 1. Write out coefficients



Step 2. Construct the atom equations:

$$\text{N: } 3a + 4b = 2y$$

$$\text{H: } 12a = 4y$$

$$\text{P: } a = 4x$$

$$\text{Pb: } b = 3x$$

$$\text{O: } 4a + 12b = 16x + 3y$$

Balancing Chemical Equations

Step 3. Set an initial condition and calculate coefficients:

$$\text{N: } 3a + 4b = 2y$$

$$\text{H: } 12a = 4y$$

$$\text{P: } a = 4x \quad \text{First set } a = 4 \text{ then } x = 1$$

$$\text{Pb: } b = 3x$$

$$\text{O: } 4a + 12b = 16x + 3y$$

Balancing Chemical Equations

Step 3. Set an initial condition and calculate coefficients:

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Balancing Chemical Equations

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$$\text{Check } 4(4) + 12(3) = 16(1) + 3(12)? \quad \text{Yes!}$$

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Write the balanced equation:

