Presley Phan (EC)
yaseman Dundar (KB)
Sophia Roper (SS)
Simra Mir (KB)
Shruti Vathada (KB)

Part 1:

1. $40g\ 60g/mol + 35g\ 40g/mol \rightarrow 37g/mol + 75g/mol$

$3A + 2B \rightarrow 5C + 1D$

$\frac{40}{60} = .667 \div 3 = .22\ mol\ 3A$ $\frac{35}{40} = .875 \div 2 = .4375\ mol\ 2B$ limiting reactant is (A)

2. $\frac{40g\ A}{} \left| \frac{1mol\ A}{60g\ A} \right| \frac{1mol\ D}{3mol\ A} \left| \frac{75g\ D}{1mol\ D} \right| = 16.667g$

$\frac{35g\ B}{} \left| \frac{1mol\ B}{40g\ B} \right| \frac{1mol\ D}{2mol\ B} \left| \frac{75g\ D}{1mol\ D} \right| = 32.812\ 5$

3. $.222 \times 2 = .444 = 17.6g\ B$

$35 - 17.6778 = 17.222$

Part II:

1. $Pb(NO_3)_2 + 2KI \rightarrow PbI_2 + 2K(NO_3)$
2. lead (II) iodide and potassium nitrate
3. $207.2 + 2(126.90)$
4. $\frac{9.22g\ PbI_2}{} \left| \frac{1mol}{461g} \right. = 0.02mol\ PbI_2$
5. $0.22M = \frac{.022mol}{.1L}$ $.022mol\ Pb(NO_3)_2$ $\frac{.022mol}{1} = .022$

$0.56M = \frac{}{.1L}$ $.056mol\ KI$ $\frac{.056}{2} = .028$

$\frac{.022mol}{} \left| \frac{1mol\ PbI_2}{1mol\ LN} \right| \frac{461g}{1mol\ PbI_2} = 10.142$ $\frac{9.22}{10.142}$ 90.90%

Part III

1. $\frac{735\ torr}{760} = .967atm \times 1.0132\ 5 = 0.9799\ bar$
2. Pressure increases, Volume decrease which has an inverse relationship with pressure