You will need to work all of the problems below on a second sheet of paper. There are multiple calculations for each of the amounts.

Section 11.3 Limiting Reactants

In your textbook, read about why reactions stop and how to determine the limiting reactant.

Study the diagram showing a chemical reaction and the chemical equation that represents the reaction. Then complete the table. Show your calculations for questions 25–27 in the space below the table.

$$O_2 + 2NO \rightarrow 2NO_2$$
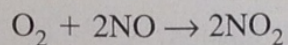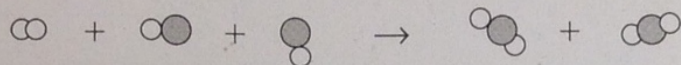
The molar masses of O_2, NO, and NO_2 are 32.00 g/mol, 30.01 g/mol, and 46.01 g/mol, respectively.

Amount of O_2	Amount of NO	Amount of NO_2	Limiting Reactant	Amount and Name of Excess Reactant
1 molecule	2 molecules	2 molecules	none	none
4 molecules	4 molecules	4 molecules	NO	2 molecules O_2
2 molecules	8 molecules	1.	2.	3.
1.00 mol	2.00 mol	4.	5.	6.
4.00 mol	4.00 mol	7.	8.	9.
5.00 mol	7.00 mol	10.	11.	12.
1.00 mol	4.00 mol	13.	14.	15.
0.500 mol	0.200 mol	16.	17.	18.
32.00 g	60.02 g	19.	20.	21.
16.00 g	80.00 g	22.	23.	24.
10.00 g	20.00 g	25.	26.	27.