

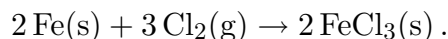
This print-out should have 12 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering. The due time is Central time.

Msci 02 1130

04:04, general, multiple choice, > 1 min, fixed.

001

Iron reacts with Cl_2 according to the equation



How many moles of Cl_2 is needed to react with 4.4 mol Fe?

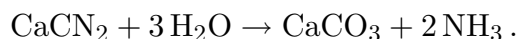
1. 4.4
2. 6.6
3. 3.3
4. 3.0

Brodbelt 434

04:05, general, multiple choice, > 1 min, fixed.

002

Consider the reaction



How much NH_3 is produced if 187 g of CaCO_3 are produced?

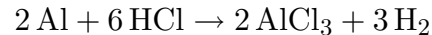
1. 3.74 mol
2. 2.13 mol
3. 72.3 mol
4. 63.6 mol
5. 1.06 mol
6. 36.1 mol

Brodbelt 3200425

04:05, general, multiple choice, > 1 min, fixed.

003

How many grams of AlCl_3 are produced if 30.0 g of H_2 are produced?



The molar mass of AlCl_3 is 133.33 g/mol.

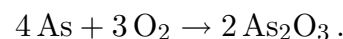
1. 1320 g
2. 2970 g
3. 0.0743 g
4. 0.167 g
5. 5390 g
6. 655 g
7. 46.5 g

Mlib 01 5047

04:05, general, multiple choice, > 1 min, fixed.

004

Consider the reaction



What is the maximum amount of As_2O_3 which could be produced by reacting 10.0 grams of As with excess oxygen?

1. 26.4 g
2. 5 g
3. 6.6 g
4. 2 g
5. 13.2 g

Mlib 76 2083

04:05, general, multiple choice, > 1 min, fixed.

005

Calcium metal reacts with water to form calcium hydroxide and hydrogen gas. How much hydrogen is formed when 0.50 g of calcium are added to water?

1. 0.025 g
2. 0.050 g
3. 0.10 g
4. 0.50 g

Mlib 76 0023

04:05, general, multiple choice, > 1 min, fixed.

006

Acetylene (C_2H_2) burns in pure oxygen with a very hot flame. The products of this reaction are carbon dioxide and water. How much oxygen is required to react with 52.0 g of acetylene?

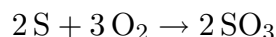
1. 160.0 g
2. 32.0 g
3. 52.0 g
4. 240.0 g

Brodbelt011

04:09, general, multiple choice, > 1 min, fixed.

007

Consider the reaction



How much SO_3 is produced upon reaction of 40.0 g of O_2 and 30.0 g of S AND what is the limiting reactant?

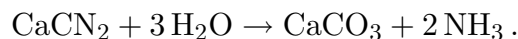
1. 66.7 g; O_2
2. 66.7 g; S
3. 74.9 g; O_2
4. 74.9 g; S

Brodbelt 204

04:09, general, multiple choice, > 1 min, fixed.

008

Consider the reaction of $CaCN_2$ and water to produce $CaCO_3$ and NH_3 :



How much NH_3 is produced upon reaction of 65.0 g of $CaCN_2$ and 4.0 moles of H_2O ?

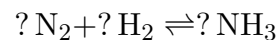
1. 1.6 mol
2. 2.7 mol
3. 0.8 mol
4. 8 mol
5. 6.0 mol

Nlib 05 0044

04:09, general, numeric, > 1 min, wording-variable.

009

For the reaction



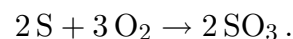
a maximum of how many grams of NH_3 could be formed from 6.1 g of N_2 and 9.1 g of H_2 ? Answer in units of g.

Brodbelt 03 15

04:09, general, multiple choice, > 1 min, fixed.

010

60.0 g O_2 and 50.0 g S are reacted according to the equation



Which reactant is in excess and by how many grams?

1. S; 10.0 g
2. O_2 ; 10.0 g
3. S; 24.8 g
4. O_2 ; 24.8 g
5. S; 20.0 g

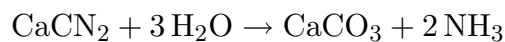
6. O₂; 20.0 g

Brodbelt 3200429

04:11, general, multiple choice, > 1 min, fixed.

011

Consider the following reaction



What is the percent yield if 15.5 g of NH₃ is produced upon reaction of 65.5 g of CaCN₂ and 451 g of water? The molar mass of CaCN₂ is 80.11 g/mol and the molar mass of CaCO₃ is 100.09 g/mol.

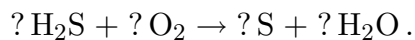
1. 55.8 %
2. 1.79 %
3. 89.75 %
4. 69.7 %
5. 27.8 %
6. 80.15 %
7. 14.5 %

Nsci 03 0405

04:11, general, numeric, > 1 min, normal.

012

In the reaction below, 20 g of H₂S with excess O₂ produced 8 g of sulfur.



What is the percent yield of sulfur? Answer in units of %.