

Answers to problems 39-40 in page 331

37. a. 4.61×10^{23} molecules H_2
b. 4.31×10^{23} atoms Na
c. 3.30×10^{20} molecules H_2
38. a. excess, O_2 ; limiting, NO
b. 4.0 mol NO_2
39. a. excess, H_2O ; limiting, CaC_2
b. 26 g C_2H_2
c. 74 g Ca(OH)_2
40. a. excess, H_2 ; limiting, N_2
b. 34 g NH_3
c. 22 g H_2
41. 75.6%
42. 88.2%
43. 72.5%
44. 1.9×10^2 g NaNO_2
45. 4.7 g Al
46. 2.8 kg Fe
47. 46.6 L CO_2
48. a. 84.7 g NaN_3
b. 43 L N_2
c. 9.0×10^1 g NaN_3
49. $\frac{25 \text{ mol O}_2}{2 \text{ mol C}_8\text{H}_{18}}$, or 25:2
50. 2.41×10^3 g O_2
51. 1.71×10^3 L O_2
52. 4.75 g O_3 ; 96.4%
53. 2.16×10^3 g CO_2 ; 88.0%