Numerical Answers to Tutorial Sheet 7

1 a (i) $-2.42 kJmol^{-1}$

(ii) 3.01

b (i) (a) 2.85×10^{-6}

(b) $240 kJmol^{-1}$

(c) 0

(ii) (a) 0.1411

(b) $0.4855 kJmol^{-1}$

(c) 14.556

(iii) $-68.26 kJmol^{-1}$ (at 298K)

$K = 9.2 \times 10^{11}$

$-69.7 kJmol^{-1}$

$K = 1.3 \times 10^{9}$ (at 400K)

c (ii) 0.33

(iii) 0.33

(iv) $2.8 \times 10^{3} kJmol^{-1}$

d (i) $T = 1.5 \times 10^{3} K$

(ii) $T = 1.4 \times 10^{3} K$

e $12.3 kJmol^{-1}$

g (i) $+53 kJmol^{-1}$

(ii) $-53 kJmol^{-1}$

h $-14.38 kJmol^{-1}$

i (i) 9.24

(ii) $-12.9 kJmol^{-1}$

(iii) $161 kJmol^{-1}$

(iv) $248 kJmol^{-1}$

j (i) 110K

(ii) 397K

k (i) (a) 4.0×10^{-6}

(b) 3.61

(ii) (a) 5.13

(b) 8.88

(c) 2.88

l (i) $4.48 kJmol^{-1}$

(ii) 0.101atm

n 1.69×10^{-5}