

## REVIEW SHEET ANSWERS - DETERMINING ROOTS

1 a.  $x = -3, -2$

b.  $x = 6$

c.  $x = 0, -3$

d.  $x = 1, -5/2$

2 a.  $x = \frac{-1 \pm \sqrt{3}i}{2}$

b.  $x = 1, -3/4$

c.  $x = 4 \pm \sqrt{22}$

3 a.  $D = 361$

i) two real & different roots

ii) two x-intercepts

b.  $D = -4$

i) two complex & different roots

ii) no x-intercepts

c.  $D = 0$

i) two real & equal roots

ii) one x-intercept

4. Text book:

p.56 # 57 a.  $c > -4$       b.  $c = -4$       c.  $c < -4$

p.57 # 62  $p = -1/4$

# 63 If  $x^2 - 10 = k(x - 2)$  has two equal real roots,  
then  $k^2 - 8k + 40 = 0$  where  $k$  is complex (non-real)

5. Possible answers:

a.  $x^2 - 3x - 28 = 0$   
 $2x^2 - 6x - 56 = 0$

b.  $2x^2 - 11x + 5 = 0$   
 $10x^2 - 55x + 25 = 0$

c.  $x^2 - 6x + 3 = 0$   
 $3x^2 - 18x + 9 = 0$