1 (c) (i) Factorise  $y^2 - 2y - 48$ 

$$y = \frac{2 \pm \sqrt{(-2)^{2} - 4(-48)}}{2}$$

$$= \frac{2 \pm 14}{2}$$

$$y = 8 \text{ or } -6$$
Hence,  $(y+6)(y-8)$ 

(ii) Hence, solve  $y^2 - 2y - 48 = 0$ 

2 Solve  $x^2 - 5x - 36 = 0$ Show clear algebraic working.

$$\chi^2 - 5\chi - 36 = 0$$

$$(x-9)(x+4)=0$$

-4,9



(Total for Question 2 is 3 marks)

3 (b) Solve  $x^2 - 3x - 40 = 0$ Show clear algebraic working.

By using quadratic formula.

$$x = \frac{3 \pm \sqrt{(-3)^2 + 4(1)(-40)}}{2}$$

$$x = \frac{3 \pm \sqrt{169}}{2}$$

$$= \underbrace{3 \pm 13}_{2} \quad ()$$

$$x = \frac{3+13}{2}$$
 or  $\frac{3-13}{2}$ 

(Total for Question 3 is 3 marks)

4 (i) Factorise  $x^2 + 2x - 24$ 

$$(x-4)(x+6)$$

(ii) Hence solve  $x^2 + 2x - 24 = 0$ 

(Total for Question 4 is 3 marks)

5 Solve  $x^2 - 21x + 20 = 0$ Show your working clearly.

By using quadratic formula:

$$z = \frac{21 \pm \sqrt{(-21)^{2} - 4(1)(20)}}{2}$$

$$= \frac{21 \pm \sqrt{361}}{2}$$

$$= \frac{21 \pm 19}{2}$$

$$= \frac{21 \pm 19}{2}$$
or  $\frac{21 - 19}{2}$ 

$$= \frac{40}{2}$$
 or  $\frac{2}{2}$ 

(Total for Question 5 is 3 marks)

6 (b) (i) Factorise  $x^2 + 5x - 36$ 

$$\chi^{2} + 5\chi - 36$$
 $(\chi + 9)(\chi - 4)$  2

(ii) Hence, solve  $x^2 + 5x - 36 = 0$ 

$$(x+9)(x-4) = 0$$
 $x+9=0$  or  $x-4=0$ 
 $x=-9$   $x=4$ 

(Total for Question 6 is 3 marks)

7 (b) (i) Factorise  $x^2 + 8x - 9$ 

$$(x-1)(x+q)$$

(ii) Hence, solve  $x^2 + 8x - 9 = 0$ 

(Total for Question 7 is 3 marks)

**8** (i) Factorise  $x^2 + 5x - 24$ 

(ii) Hence, solve  $x^2 + 5x - 24 = 0$ 

(Total for Question 8 is 3 marks)

9 (a) Solve the inequality  $5x - 7 \le 2$ 

$$5x - 7 \le 2$$

$$5x \le 2+7$$

$$5x \le 9$$

$$x \le \frac{9}{5}$$

x < 1.8 (1)

2 < 1.8 (2)

(b) (i) Factorise  $y^2 - 2y - 35$ 

$$y^2 - 2y - 35$$

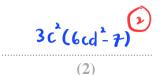
(y-7)(y+5)

(ii) Hence, solve 
$$y^2 - 2y - 35 = 0$$

(Total for Question 9 is 5 marks)

10 (a) Factorise fully

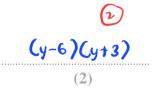
$$18c^3d^2 - 21c^2$$



(b) (i) Factorise

$$y^2 - 3y - 18$$

$$(y-6)(y+3)$$



(ii) Hence, solve 
$$y^2 - 3y - 18 = 0$$

(Total for Question 10 is 5 marks)