1. (a) Factorise fully $2x^2 - 4xy$

2x(x-2y)

(b) Factorise $p^2 - 6p + 8$

(p-2)(p-4)

(c) Simplify $\frac{(x+2)^2}{x+2}$

<u>x+7</u> (1)

(d) Factorise $x^2 - 100$

 $\left(\chi + 10\right)\left(\chi - 16\right)$

(7 marks)

2. (a) Simplify $x^5 \times x^4$

<u>)(1)</u>

(b) Simplify $y^7 \div y^2$

....<u>5</u><u>(1)</u>

- (c) Expand and simplify 3(2a+5)+5(a-2)
 - Ga +15 + 5a -10

11a + 5

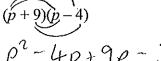
- (d) Expand and simplify
- $(y^{2} + 7y + 5y + 35)$
- $y^{2} + 12y + 35$

- (e) Factorise
- $p^2 6p + 5$

(p-1)(p-5)

(8 marks)

3. (a) Expand and simplify



p +5p-36

- (b) Factorise
- $x^2 11x + 18$

(x-2)(x-9)

(c) Factorise $x^2 - 49$

(2c+7)(x-7)

(d) Simplify $(9x^8y^3)^{\frac{1}{2}}$

- 3 x 4 3 2
 - (8 marks)

4. (a) Expand 3(2y-5)

64-15

(b) Factorise completely $8x^{2} + 4xy$

4x(2x+y)

- (c) Expand and simplify
- (p+7)(p-8) $p^2 8p + 7p 56$
- p² p 56

(d) Factorise $x^2 - 169$

(x+13)(x-13)

(7 marks)

5. (a) Expand 4(3x + 5)

$$12x + 20$$

(b) Expand and simplify 3(x-4)-2(x+5)

 $\chi - \chi \chi$ (2)

(c) Expand and simplify (x+4)(x+6)

$$\chi^{2} + 6x + 4x + 24$$
 $\chi^{2} + 10x + 24$
(5 marks)

6. (a) Factorise $x^2 + 7x$

$$x(x+7)$$

(b) Factorise $y^2 - 10y + 16$

$$(y-8)(y-2)$$
 (2)

(c) Solve $y^2 - 10y + 16 = 0$

$$y=8, y=2$$
 (2)

(5 marks)

- 7. (a) Expand and simplify 3(x+4)+2(5x-1)3x+12+lox-2 135710 (b) Expand and simplify (2x+1)(x-4)202-8x+x-4 $2x^{2}-7x-4$ (c) Factorise completely $6y^2 - 9xy$ `Sy(2y-3x) 8. (a) Expand x(x + 2)
 - $2^2 + 2x$ (x+3)(x-4)(b) Expand and simplify x2-4x+3x-12 22 -x-17 **(2)** $2y^2 - 4y$ (c) Factorise completely 2y(y-2)

 $x^2 - 9$

(d) Factorise

(8 marks)

(x-13)(x-3)

(2)

(2)

(6 marks)

9. (a) Expand and simplify (3x+5)(4x-1)

$$12x^2 - 3x + 20x - 5$$

 $12\alpha^2 + 17x - 5$ (2)

(b) Factorise

$$x^2 - 3x - 10$$

(x-5)(x

$$\left(\chi - 5\right)\left(x + 2\right) \tag{2}$$

(c) Solve

$$x^2 - 3x - 10 = 0$$

 $x = 5 \quad \text{and} \quad x = -2 \tag{2}$

(6 marks)

10. (a) Expand 3(4x + y)

(2)

(2)

(b) Expand 5p(p-3)

$$12x + 3y \tag{1}$$

(c) Expand and simplify (y+8)(y-3)

$$5p^2 - 15p$$

(c) Expand and simplify (y+8)(y-3)

² 4 + 54 - 214

(d) Expand and simplify $(2t-3)^2$

$$y^2 + 5y - 24$$
 (2)

(2t-3)(2t-3)

 $4t^2 - 12t + 9$ (7 marks)

11. (a) Factorise fully $6y^2 + 12y$

(b) Factorise $k^2 + 13k + 30$

6y(y+2)

(c) Solve $k^2 + 13k + 30 = 0$

(k+3)(k+16)

k = -3 and k = -10

(6 marks)

(2)

12. (a) Factorise 5x - 10

5(x-2)

(b) Factorise fully $2p^2 - 4pq$

2p(p-2q)

(c) Expand and simplify (t+5)(t-4)

t2-4t+5t-20

 $\ell^{2} + \ell^{2} = 0$ (2)

(d) Factorise $x^2 + 17x + 60$

 $\left(x+12\right)\left(x+5\right) \tag{2}$

(e) Factorise $x^2 - 144$

 $\left(\chi + 12\right)\left(2 - 12\right) \tag{2}$

(9 marks)

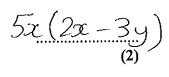
(a) Factorise 8x - 20

$$4(2x-5)$$

(b) Factorise fully

$$10x^2 - 15xy$$

(c) Factorise $x^2 - 64$



- (2+8)(x-8)
- (d) Expand and simplify (x + 7)(x 5)

$$x^{2} - 5x + 7x - 35$$

 $\chi^2 + 2\chi - 35$

 $x^2 + 2x - 15$ (e) Factorise

(x+5)(x-3)

- (f) Solve
- $x^2 + 2x 15 = 0$

X = -5 and & = 3