(d) Factorise the following completely.

(i) $x^2 - 3x - 28$

.... [2]

10 Factorise

(a) $x^2 - x - 6$,

.... [2]

(b) $h^2 - 144$

.... [1]

(b) $9x^2 - 1$

.... [1]

12 Factorise fully.

(a) $(3y)^2 - 16$

.... [1]

7 **(a)** Factorise fully.

(i) $27y^2 - 3$

.... [3]

13 Factorise.

    (a) $49 - 16u^2$

.... [1]

18 (a) Factorise.
$$18a^2 - 98$$

.... [2]

9 Factorise completely.

    (b) $20x^2 - 45y^2$

.... [3]

11 Factorise completely.
$$48x^2 - 75y^2$$

.... [3]

    (b) Factorise completely.

        (i) $2x^2 - 288y^2$

.... [3]

(b) $2x^3 - 18xy^2$

.... [3]

(b) $5x^2 - 20y^2$

.... [3]

(c) Factorise completely.
$$x^3 - 16xy^2$$

.... [3]

6 **(a)** Factorise $a^2 - b^2$.

.... [1]

(b) Work out $5.37^2 - 4.63^2$.

.... [2]

10 Factorise.

$$2x + 6 - 3xy - 9y$$

.... [2]

9 Factorise completely.

$$2x - 6y - ax + 3ay$$

.... [2]

8 Factorise fully.

$$2cx^2 - 2dx - cx + d$$

.... [2]

(b) Factorise.

$$3x(a + 4y) - ay - 4y^2$$

.... [1]

16 Factorise.

$$3x + 6 - 2xy - 4y$$

.... [2]

10 Factorise.

(c) $6ax + 9ay - 8bx - 12by$

.... [2]

20 Factorise completely.

(a) $1 + x - y - xy$

.... [2]

12 Factorise.

$$1 + a - c - ac$$

.... [2]

21 Factorise completely.

$$1 - q - a + aq$$

.... [2]

10 (a) Write down **all** the factors of 18.

.... [2]

(b) Factorise.

$$3y - xy + 15 - 5x$$

.... [2]

(c) $3y - xy + 15 - 5x = 18$

where x and y are positive integers.

Using your answers to **part (a)** and **part (b)**, find one possible value of x and the corresponding value of y.

$x =$ .... , $y =$ .... [2]

20 Factorise completely.

(a) $2m + 3p - 8km - 12kp$

.... [2]

7 Factorise.

(a) $12ax - 2by + 3ay - 8bx$

.... [2]

(b) $3ax + 2bx - 4by - 6ay$.

.... [2]

(b) $15ab - 1 - 3a + 5b$

.... [2]

13 Factorise completely.

(b) $mt - n - m + nt$

.... [2]

(b) $1 + 4xy - 2x - 2y$

.... [2]

(ii) $2m - pk + 2k - pm$

.... [2]

20 Factorise.
$$3x + 8y - 6ax - 16ay$$

.... [2]

12 Factorise.

$$2x^2 - 3x - 5$$

.... [2]

(ii) $5x^2 + 17x - 40$

.... [2]

(b) $5x^2 - 6x - 8$

.... [2]

15 (a) Factorise fully.

$$6x^2 - 7x - 3$$

.... [2]

16 Factorise $6x^2 + 7x - 20$.

.... [2]

(b) (i) Factorise.
$$15x^2 - 2x - 8$$

.... [2]

(ii) Solve the equation.
$$15x^2 - 2x - 8 = 0$$

$x = $ .... or $x = $ .... [1]

17 Solve.
$$(5x - 3)(2x + 7) = 0$$

$x = $ .... or $x = $ .... [1]

(e) Solve by factorisation.

$$4x^2 + 8x - 5 = 0$$

$x =$ .... or $x =$ .... [3]

11 Solve.

$$6x^2 - 5x - 6 = 0$$

$x =$ .... or $x =$ .... [3]

11 Solve.

(a) $4x^2 - 5x - 6 = 0$

$x =$ .... or $x =$ .... [3]

9 **(a)** Solve.
$$5x^2 = 12 - 17x$$

$x =$ .... or $x =$ .... [4]

(b) $ax^2 + a = b$ where a and b are integers.

One solution of this equation is $x = 6$.

Write down the other solution.

$x =$ .... [1]

Factorise.
(ii) $7(a+2b)^2 + 4a(a+2b)$

.... [2]

23 Solve $\dfrac{4}{x+1} + \dfrac{2}{2x-5} = 3$.

You must show all your working.

$x =$ .... or $x =$ .... [7]

15 Factorise.
$$5x^2 - xy - 4y^2$$

.... [2]