

Alg- 8th

Sec 5.11

$$\textcircled{33} \quad a^4 - b^4$$

$$(a^2 - b^2)(a^2 + b^2)$$

$$(a+b)(a-b)(a^2 + b^2)$$

$$\textcircled{37} (a+b)^2 - (a-c)^2$$

$$(a+b+a-c)(a+b-a+c)$$

$$(2a+b-c)(b+c)$$

$$\begin{aligned} \textcircled{25} \quad & \underline{r^2} - \underline{6r} - 9s^2 + \underline{9} \\ & (r^2 - 6r + 9) - 9s^2 \\ & (r-3)^2 - (3s)^2 \\ & (r-3-3s)(r-3+3s) \end{aligned}$$

$$\begin{aligned}
 & \textcircled{45} \quad a(a^2 - 9) - 2(a+3)^2 \\
 & \quad a(a+3)(a-3) - 2(a+3)(a+3) \\
 & \quad (a+3)(a(a-3) - 2(a+3)) \\
 & \quad (a+3)(a^2 - 3a - 2a - 6) \\
 & \quad (a+3)(a^2 - 5a - 6) \\
 & \quad (a+3)(a-6)(a+1)
 \end{aligned}$$

$$\textcircled{47} \quad 9u^2 - 9v^2 - 36w^2 + 36vw$$

$$9(u^2 - v^2 - 4w^2 + 4vw)$$

$$9(u^2 - (v^2 - 4vw + 4w^2))$$

$$9(u^2 - (v - 2w)^2)$$

$$9(u + v - 2w)(u - v + 2w)$$

$$(43) \quad 16c^{16} - 16$$

$$16(c^{16} - 1)$$

$$16(c^8 + 1)(c^8 - 1)$$

$$16(c^8 + 1)(c^4 + 1)(c^4 - 1)$$

$$16(c^8 + 1)(c^4 + 1)(c^2 + 1)(c^2 - 1)$$

$$16(c^8 + 1)(c^4 + 1)(c^2 + 1)(c + 1)(c - 1)$$

$$\textcircled{39} \quad x^3 - x^2y - xy^2 + y^3$$

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

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

$$(x-y)(x+y)(x-y)$$

$$(x-y)^2(x+y)$$

Sec 5.12

if $ab=0$ then
 $a=0$ or $b=0$.

$$(x+2)(x-5) = 0$$

$$x+2=0$$

$$x=-2$$

$$x-5=0$$

$$x=5$$

$$5n(n-3)(n-4) = 0$$

$$\begin{array}{ccc} 5n = 0 & n-3 = 0 & n-4 = 0 \\ n = 0 & n = 3 & n = 4 \end{array}$$

$$2x^2 + 5x = 12$$

$$2x^2 + 5x - 12 = 0$$

$$(2x-3)(x+4) = 0$$

$$2x-3 = 0$$

$$x+4 = 0$$

$$x = \frac{3}{2}$$

$$x = -4$$

$$18y^3 + 8y + 24y^2 = 0$$

$$2y(9y^2 + 4 + 12y) = 0$$

$$2y(9y^2 + 12y + 4) = 0$$

$$2y(3y+2)(3y+2) = 0$$

$$2y = 0 \quad 3y+2 = 0$$

$$y = 0$$

$$y = -\frac{2}{3}$$