

18 + 3  
33 + 15  
-5 1

(12)

(3)  $x^3 + 6x^2 + 7x + 2 = 0$

Here  $h = -\frac{1}{3} \cdot \frac{a_1}{a_0} = -\frac{1}{3} \cdot \frac{6}{1} = -2$

$\Rightarrow 3$

-2	1	6	7	2
		-2	-8	2
<hr/>				
	1	4	-1	4
		-2	-4	
<hr/>				
	1	2	-5	
		-2		
<hr/>				
	1	0		

$y^3 - 5y + 4 = 0$

$x^3 - 3x^2 + 12x + 16 = 0$

(4)

$h = -\frac{1}{3} \frac{a_1}{a_0} = -\frac{1}{3} \cdot \frac{-3}{1} = 1$

1	1	-3	12	16
		1	-2	10
<hr/>				
	1	-2	10	26
		1	-1	
<hr/>				
	1	-1	9	
		1		
<hr/>				
	1	0		

$y^3 + 9y + 26 = 0$

(11)

$$\begin{array}{c|ccc|c}
 3 & 1 & -9 & \frac{3}{2} & 7 \\
 & & 3 & -18 & -99/2 \\
 \hline
 & 1 & -6 & -\frac{33}{2} & -46 \\
 & & 3 & -9 & \\
 \hline
 & 1 & -3 & -\frac{51}{2} & \\
 & & 3 & & \\
 \hline
 & 1 & 0 & & 
 \end{array}$$

The transformed eqn is

$$y^3 - \frac{51}{2}y - 46 = 0$$

$$\Rightarrow 2y^3 - 51y - 92 = 0$$

(3)

OR Directly

$$\begin{array}{c|ccc|c}
 3 & 2 & -18 & 3 & 7 \\
 & & 6 & -36 & -99 \\
 \hline
 & 2 & -12 & -33 & -92 \\
 & & 6 & -18 & \\
 \hline
 & 2 & -6 & -51 & \\
 & & 6 & & \\
 \hline
 & 2 & 0 & & 
 \end{array}$$

The transformed eqn

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$$2y^3 - 51y - 92 = 0$$

Part - c (10)

$$x^3 - 6x^2 + 2x + 5 = 0 \quad \text{--- (1)}$$

Here  $h = -\frac{a_1}{3a_0} = -\frac{-6}{3} = 2$

To remove 2nd term, we have to put

$$x = y + h = y + 2$$

Now diminishing the roots of (1) by 2,

2	1	-6	2	5	
		2	-8	-12	$2 \times 1 \Rightarrow 2$
	1	-4	-6	-7	
		2	-4		
	1	-2	-10		
		2			
	1	0			

The transformed eqn<sup>n</sup> is  $y^3 - 10y - 7 = 0$

$$2x^3 - 18x^2 + 3x + 7 = 0 \quad \text{--- (1)}$$

Here  $h = -\frac{a_1}{3a_0} = -\frac{18}{3 \times 2} = 3$

To remove 2nd term we have,  $x = y + h = y + 3$

Now diminishing the roots of (1) by 3 we get,

