

Synthetic Division Sudoku Solutions

Name _____

Directions: On a separate sheet of paper, solve each problem and place the **remainder** in the indicated row and column of the puzzle. Then, write out the solution in the space below the problem. When finished, solve the remaining Sudoku puzzle. Remember, each row, each column, and each 3x3 square should have the numbers 1 – 9, with no repetition.

	A	B	C	D	E	F	G	H	I
1	5	4		6		3			7
2		6				4	9	5	
3	2		3		1		4	6	8
4		8	2	1	4		5	7	
5	4								
6		1	5		3	6	8	4	
7	1		8		7		6		
8	9	2	4	3	6	1		8	5
9	6					8		1	2

1. Divide: $(-4x^2 - 15 + x^4 - 9x) \div (x + 2)$

F - 1 **3**

$$x^3 - 2x^2 - 9 + \frac{x+2}{3}$$

2. Divide: $(x^3 - 4x^2 + 5x - 42) \div (x - 5)$

C - 7 **8**

$$x^2 + x + 10 + \frac{x+2}{8}$$

3. Divide: $(x^3 + 3x^2 - 28x - 54)(x + 6)^{-1}$

H - 3 **6**

$$x^2 - 3x - 10 + \frac{x+6}{6}$$

4. Perform the following operation:

F - 8 **1**

$$\frac{x^3 + 4x^2 - 6x + 2}{x - 1}$$

$$x^2 + 5x - 1 + \frac{1}{x - 1}$$

5. Divide: $(x^4 + 12x^3 + 25x^2 + 48x - 18) \div (x + 10)$

A - 3 **2**

$$x^3 + 2x^2 + 5x - 2 + \frac{x+10}{2}$$

6. Perform the following operation:

A - 5 **4**

$$\frac{x^4 - 2x^3 - 52x^2 + 36x - 28}{x - 8}$$

$$x^3 + 6x^2 - 4x + 4 + \frac{4}{x - 8}$$

7. Divide: $(x^4 - 8x^3 + 8x - 58) \div (x - 8)$

E - 8 **6**

$$x^3 + 8 + \frac{x-8}{6}$$

8. Divide: $(9x^3 - 73x^2 + 71x - 2) \div (x - 7)$

I - 8 **5**

$$9x^2 - 10x + 1 + \frac{x-7}{5}$$

9. Perform the following operation:

A - 8 **9**

$$\frac{-3x^3 + x^4 - 47x^2 - 21 + 37x}{x + 6}$$

$$x^3 - 9x^2 + 7x - 5 + \frac{9}{x + 6}$$

10. Divide: $(6x^3 + 47x^2 + 2x + 84)(x + 8)^{-1}$

G - 3 **4**

$$6x^2 - x + 10 + \frac{4}{x + 8}$$