



Synthetic Division

Version 2

Name: _____

Date: _____

Score: _____

Direction: Divide the following polynomials using Synthetic Division. Use the space provided to show your work.

1) $(2x^4 + x^3 - x^2 - 1) \div (x - 3)$

Here's the setup:

3	2	1	-1	0	-1

2) $(x^4 - x + 4) \div (x + 3)$

Here's the setup:

-3	1	0	0	-1	4

3) $(-2x^5 - x^3 + 5x + 1) \div (x + 1)$

Here's the setup:

-1	-2	0	-1	0	5	1

4) $(-x^6 + x) \div (x - 1)$

Here's the setup:

1	-1	0	0	0	0	1	0



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Direction: Divide the following polynomials using Synthetic Division. Use the space provided to show your work.

1) $(2x^4 + x^3 - x^2 - 1) \div (x - 3)$

Here's the setup:

$$\begin{array}{r|rrrrr}
 3 & 2 & 1 & -1 & 0 & -1 \\
 & & 6 & 21 & 60 & 180 \\
 \hline
 & 2 & 7 & 20 & 60 & 179
 \end{array}$$

2) $(x^4 - x + 4) \div (x + 3)$

Here's the setup:

$$\begin{array}{r|rrrrr}
 -3 & 1 & 0 & 0 & -1 & 4 \\
 & & -3 & 9 & -27 & 84 \\
 \hline
 & 1 & -3 & 9 & -28 & 88
 \end{array}$$

3) $(-2x^5 - x^3 + 5x + 1) \div (x + 1)$

Here's the setup:

$$\begin{array}{r|rrrrrr}
 -1 & -2 & 0 & -1 & 0 & 5 & 1 \\
 & & 2 & -2 & 3 & -3 & -2 \\
 \hline
 & -2 & 2 & -3 & 3 & 2 & -1
 \end{array}$$

4) $(-x^6 + x) \div (x - 1)$

Here's the setup:

$$\begin{array}{r|rrrrrrr}
 1 & -1 & 0 & 0 & 0 & 0 & 1 & 0 \\
 & & -1 & -1 & -1 & -1 & -1 & 0 \\
 \hline
 & -1 & -1 & -1 & -1 & -1 & 0 & 0
 \end{array}$$