



Synthetic Division

Name: _____

Date: _____

Score: _____

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

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

Here's the setup:

$\boxed{-2}$ 1 -3 4 -1 3

2) $(-x^4 + 2x^3 - 5x^2 + x - 7) \div (x - 2)$

Here's the setup:

$\boxed{2}$ -1 2 -5 1 -7

3) $(7x^5 - x + 1) \div (x + 1)$

Here's the setup:

$\boxed{-1}$ 7 0 0 0 -1 1

4) $(-3x^6 + 2x^3 - x) \div (x - 1)$

Here's the setup:

$\boxed{1}$ -3 0 0 2 0 -1 0



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

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

Here's the setup:

$$\begin{array}{r}
 \boxed{-2} \quad 1 \quad -3 \quad 4 \quad -1 \quad 3 \\
 \phantom{\boxed{-2}} \quad \quad -2 \quad 10 \quad -28 \quad 58 \\
 \hline
 1 \quad -5 \quad 14 \quad -29 \quad 61
 \end{array}$$

2) $(-x^4 + 2x^3 - 5x^2 + x - 7) \div (x - 2)$

Here's the setup:

$$\begin{array}{r}
 \boxed{2} \quad -1 \quad 2 \quad -5 \quad 1 \quad -7 \\
 \phantom{\boxed{2}} \quad \quad -2 \quad 0 \quad -10 \quad -18 \\
 \hline
 -1 \quad 0 \quad -5 \quad -9 \quad -25
 \end{array}$$

3) $(7x^5 - x + 1) \div (x + 1)$

Here's the setup:

$$\begin{array}{r}
 \boxed{-1} \quad 7 \quad 0 \quad 0 \quad 0 \quad -1 \quad 1 \\
 \phantom{\boxed{-1}} \quad \quad -7 \quad 7 \quad -7 \quad 7 \quad -6 \\
 \hline
 7 \quad -7 \quad 7 \quad -7 \quad 6 \quad -5
 \end{array}$$

4) $(-3x^6 + 2x^3 - x) \div (x - 1)$

Here's the setup:

$$\begin{array}{r}
 \boxed{1} \quad -3 \quad 0 \quad 0 \quad 2 \quad 0 \quad -1 \quad 0 \\
 \phantom{\boxed{1}} \quad \quad -3 \quad -3 \quad -3 \quad -1 \quad -1 \quad -2 \\
 \hline
 -3 \quad -3 \quad -3 \quad -1 \quad -1 \quad -2 \quad -2
 \end{array}$$