

Name: _____

Long Division of Polynomials

What Did The Math Teacher Have For Dinner?

Directions: Use long division to divide the polynomials. Then use the answer to determine which letter corresponds to the problem number to solve the riddle!

1. $(2x^2 - 9x - 35) \div (x - 7)$

2. $(2x^3 + 7x^2 + 8x + 15) \div (x + 3)$

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

4. $(5x^3 - 12x^2 + 11x + 12) \div (5x + 3)$

5. $(x^3 + 729) \div (x + 8)$

6. $(3x^4 + 15x^3 + 18x^2 - 3x - 6) \div (3x + 6)$

Long Division of Polynomials

7. $(10x^3 + 12x + 16) \div (2x + 4)$

8. $(12x^3 + 20x^2 + 8x + 16) \div (4x^2 + 2)$

9. The area of a rectangle is $6x^2 + 17x - 45$ and the width is $2x + 9$. What is the length?

Now match your answer with a letter to solve the riddle!

A $3x + 5 + \frac{2x+6}{4x^2+2}$

I $3x^2 - 6x + 14 - \frac{29}{x+2}$

N $x^2 - 3x + 4$

R $x^2 - 8x + 64 + \frac{217}{x+8}$

D $2x^2 + x + 5$

I $x^3 + 3x^2 - 1$

E $3x - 5$

S $5x^2 - 10x + 26 - \frac{88}{2x+4}$

What Did The Math Teacher Have For Dinner?

5 9

1

8

6

4

2

9

5

7

3