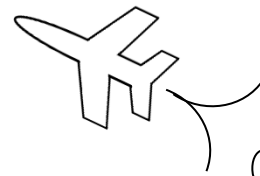




MAth on the Fly!



NAME: _____ DATE: _____

Factoring Sum and Difference of Cubes

Factor each expression below.

1.

$x^3 - y^3$

2.

$x^3 + 8$

3.

$125 + 8x^3$

4.

$27x^3 - 64$

5.

$64x^3 - 1$

6.

$216 + x^3$

7.

$8x^3 + 729$

8.

$1 - 125x^3$

9.

$x^3 - 512$

10.

$x^3 + y^3$

11.

$64x^3 + 27y^3$

12.

$x^3 - 1000$

13.

$x^3 - y^6$

14.

$x^6 + 1$

SOLUTIONS

$$\boxed{1.} \quad \begin{array}{l} x^3 - y^3 \\ (x - y)(x^2 + xy + y^2) \end{array}$$

$$\boxed{2.} \quad \begin{array}{l} x^3 + 8 \\ (x + 2)(x^2 - 2x + 4) \end{array}$$

$$\boxed{3.} \quad \begin{array}{l} 125 + 8x^3 \\ (5 + 2x)(25 - 10x + 4x^2) \end{array}$$

$$\boxed{4.} \quad \begin{array}{l} 27x^3 - 64 \\ (3x - 4)(9x^2 + 12x + 16) \end{array}$$

$$\boxed{5.} \quad \begin{array}{l} 64x^3 - 1 \\ (4x - 1)(16x^2 + 4x + 1) \end{array}$$

$$\boxed{6.} \quad \begin{array}{l} 216 + x^3 \\ (6 + x)(36 - 6x + x^2) \end{array}$$

$$\boxed{7.} \quad \begin{array}{l} 8x^3 + 729 \\ (2x + 9)(4x^2 - 18x + 81) \end{array}$$

$$\boxed{8.} \quad \begin{array}{l} 1 - 125x^3 \\ (1 - 5x)(1 + 5x + 25x^2) \end{array}$$

$$\boxed{9.} \quad \begin{array}{l} x^3 - 512 \\ (x - 8)(x^2 + 8x + 64) \end{array}$$

$$\boxed{10.} \quad \begin{array}{l} x^3 + y^3 \\ (x + y)(x^2 - xy + y^2) \end{array}$$

$$\boxed{11.} \quad \begin{array}{l} 64x^3 + 27y^3 \\ (4x + 3y)(16x^2 - 12xy + 9y^2) \end{array}$$

$$\boxed{12.} \quad \begin{array}{l} x^3 - 1000 \\ (x - 10)(x^2 + 10x + 100) \end{array}$$

$$\boxed{13.} \quad \begin{array}{l} x^3 - y^6 \\ (x - y^2)(x^2 + xy^2 + y^4) \end{array}$$

$$\boxed{14.} \quad \begin{array}{l} x^6 + 1 \\ (x^2 + 1)(x^4 - x^2 + 1) \end{array}$$