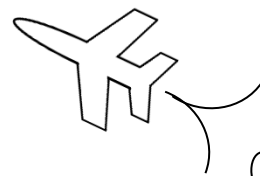


Math on the Fly!



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

1.

$$\frac{x^3 - y^3}{(x - y)(x^2 + xy + y^2)}$$

2.

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

3.

$$\frac{125 + 8x^3}{(5 + 2x)(25 - 10x + 4x^2)}$$

4.

$$\frac{27x^3 - 64}{(3x - 4)(9x^2 + 12x + 16)}$$

5.

$$\frac{64x^3 - 1}{(4x - 1)(16x^2 + 4x + 1)}$$

6.

$$\frac{216 + x^3}{(6 + x)(36 - 6x + x^2)}$$

7.

$$\frac{8x^3 + 729}{(2x + 9)(4x^2 - 18x + 81)}$$

8.

$$\frac{1 - 125x^3}{(1 - 5x)(1 + 5x + 25x^2)}$$

9.

$$\frac{x^3 - 512}{(x - 8)(x^2 + 8x + 64)}$$

10.

$$\frac{x^3 + y^3}{(x + y)(x^2 - xy + y^2)}$$

11.

$$\frac{64x^3 + 27y^3}{(4x + 3y)(16x^2 - 12xy + 9y^2)}$$

12.

$$\frac{x^3 - 1000}{(x - 10)(x^2 + 10x + 100)}$$

13.

$$\frac{x^3 - y^6}{(x - y^2)(x^2 + xy^2 + y^4)}$$

14.

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