

# I ♥ Exponents!

**Directions:** Simplify each expression. Identify matching answers between Column 1 and Column 2, then color the heart accordingly.

Column 1

Column 2

1.  $2x^5y \cdot 3x^2y$  \_\_\_\_\_

2.  $(4x^4y)^2 \cdot 2x^3y^4$  \_\_\_\_\_

3.  $\frac{36x^9y^4}{4x^7y^3}$  \_\_\_\_\_

4.  $\frac{(2xy^5)^3}{2x^3y^8}$  \_\_\_\_\_

5.  $(-5x^6y^2)^2 - 12x^{12}y^4$  \_\_\_\_\_

6.  $\frac{6x^{10}y^4}{3x^8y^7}$  \_\_\_\_\_

7.  $6x^{-1}y^5 \cdot 4x^{-4}y^{-2}$  \_\_\_\_\_

8.  $(3x^{-6}y^2)^3 \cdot 2x^{10}y^{-7}$  \_\_\_\_\_

9.  $\frac{(-2xy)^2 \cdot 10x^3y^{11}}{8x^{10}y^4}$  \_\_\_\_\_

10.  $\frac{8x^3 \cdot 12xy^7}{3x^2y^4} - 15x^2y^3$  \_\_\_\_\_

**Red:**  $x^4y^8 \cdot 5x^{-9}y$  \_\_\_\_\_

**Orange:**  $\frac{(6x^2y^3)^2}{4x^2y^5}$  \_\_\_\_\_

**Yellow:**  $(3x^{-3}y)^3 \cdot 2xy^{-4}$  \_\_\_\_\_

**Light Green:**  $\frac{(3x^5y^5)^3}{3x^3y^{11}} + 4x^{12}y^4$  \_\_\_\_\_

**Dark Green:**  $\frac{34x^{10}y^9}{2x^8y^6}$  \_\_\_\_\_

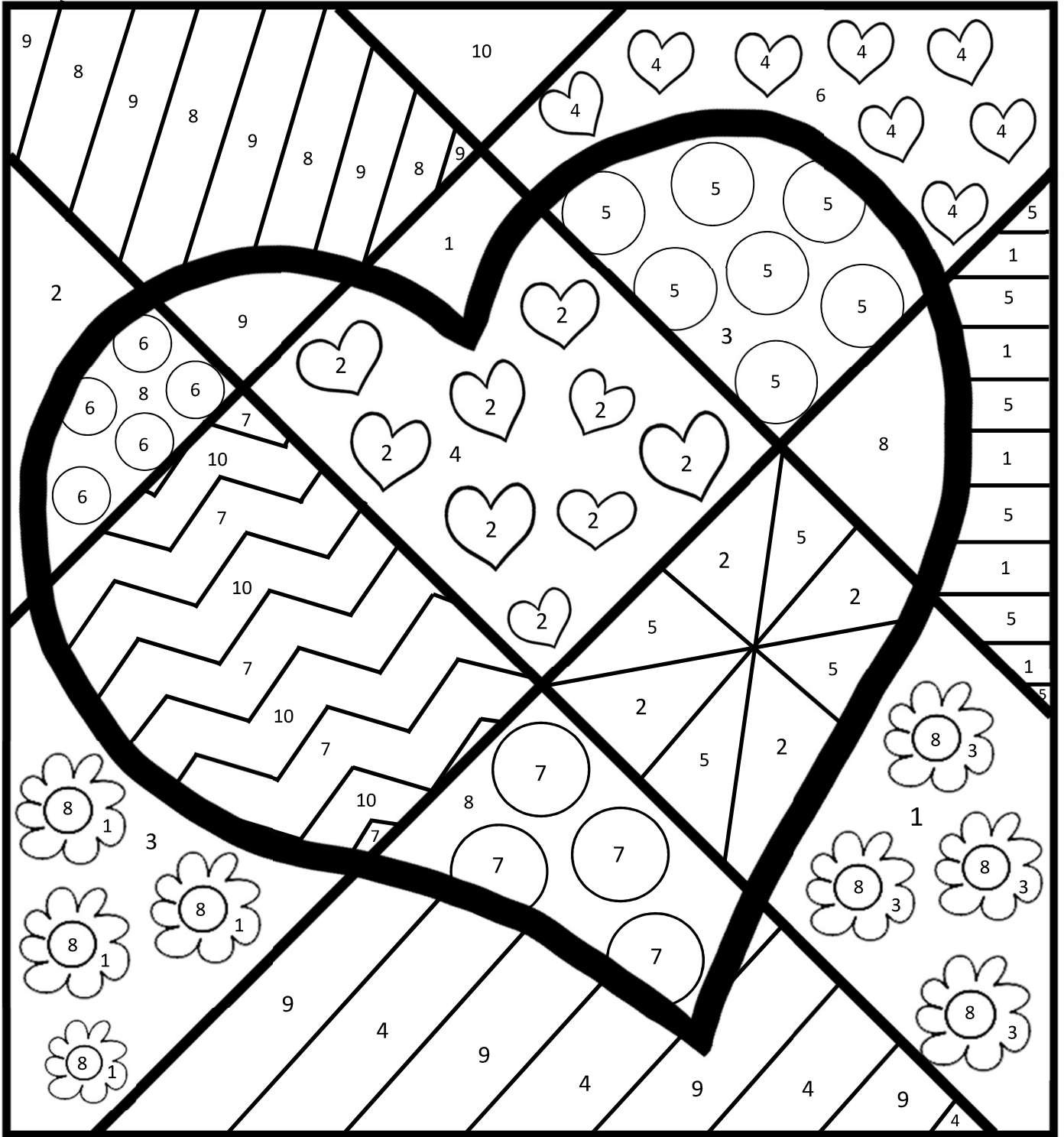
**Light Blue:**  $\frac{42x^9y^5}{7x^2y^3}$  \_\_\_\_\_

**Dark Blue:**  $3x^{-4}y^9 \cdot 8x^{-1}y^{-6}$  \_\_\_\_\_

**Purple:**  $(2x^{-2}y^3)^4 \cdot 2x^{19}y^{-6}$  \_\_\_\_\_

**Pink:**  $\frac{(-8x^3y^2)^2 \cdot 2x^2y^6}{32x^8y^3}$  \_\_\_\_\_

**Brown:**  $\frac{3x^3y^4 \cdot 6xy^{-5}}{(3xy)^2}$  \_\_\_\_\_



Heart designed by "Art with Jenny K"  
<http://www.teacherspayteachers.com/Store/Art-With-Jenny-K>