

4.13

Adding Rational Expressions with Different Denominators

• Example 1

Add $\frac{2}{3x^2y} + \frac{3}{4x^3}$.

The LCM of the two denominators $3x^2y$ and $4x^3$ is $12x^3y$. We obtain:

$$\begin{aligned} \frac{2}{3x^2y} + \frac{3}{4x^3} &= \frac{2 \cdot 4x}{3x^2y \cdot 4x} + \frac{3 \cdot 3y}{4x^3 \cdot 3y} \\ &= \frac{8x}{12x^3y} + \frac{9y}{12x^3y} \\ &= \frac{8x + 9y}{12x^3y} \end{aligned}$$

• • • CHECK YOURSELF 1

Add.

$$\frac{2}{3x^2y} + \frac{1}{6xy^2}$$

• • • CHECK YOURSELF ANSWER

1. $\frac{4y + x}{6x^2y^2}$.

4.13 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____

Add or subtract as indicated.

2. _____

$$1. \frac{3}{y^2w^3} + \frac{w}{2y}$$

$$2. \frac{2x^2y}{wz^3} - \frac{3}{8w^2yz}$$

3. _____

4. _____

5. _____

$$3. \frac{10s}{t^3u^2v^5} + \frac{9v}{s^5t^4u^3}$$

$$4. \frac{1}{x^3y^2} - \frac{3}{x^2yz^4}$$

$$5. \frac{18xy}{5z} + \frac{z}{xy}$$