Equivalent Ratios

Ratios & Rates • Answer Key

ANSWER KEY • Amplify Alignment: Grade 6 Accelerated, Unit 2, Lesson 3

1. The diagram shows the blue paint and white paint needed for 3 batches of light blue paint. What is the ratio of blue paint to white paint for 1 batch?

Blue Paint (tsp) 

White Paint (tsp) 

Ratio for 1 batch: **2 : 3**

2. The diagram shows the red dye and yellow dye needed for 4 batches of orange dye. What is the ratio of yellow dye to red dye for 1 batch?

Red Dye (tsp) 

Yellow Dye (tsp) 

Ratio for 1 batch: **1 : 2**

3. Kai makes purple paint by mixing 12 tablespoons of blue paint with 3 tablespoons of red paint. Select all the mixtures that make the same purple, but in a smaller amount.

- ☐ **A.** Mix 10 tablespoons of blue with 2 tablespoons of red.
- ☑ **B.** For every tablespoon of red, mix in 4 tablespoons of blue.
- ☐ **C.** Mix red and blue in the ratio 4 : 1 (red to blue).
- ☑ **D.** For every 2 tablespoons of red, mix in 8 tablespoons of blue.
- ☐ **E.** Mix 6 tablespoons of blue with 3 tablespoons of red.
- ☑ **F.** Mix 8 tablespoons of blue with 2 tablespoons of red.

4. Rosa makes a party drink by mixing 10 cups of iced tea with 15 cups of lemonade.

a What is the ratio of lemonade to iced tea? **15 : 10 (or 3 : 2)**

b If Rosa uses 4 cups of iced tea, how many cups of lemonade keep the taste the same? **6 cups**

c If Rosa uses 9 cups of lemonade, how many cups of iced tea keep the taste the same? **6 cups**

5. To make 1 batch of pale green paint, Theo mixes 2 cups of green paint with 1 gallon of white paint. Select all the mixtures that are a darker green than Theo's.

- ☐ **A.** Add more white paint to the mixture.
- ☑ **B.** Mix 4 cups of green paint with 1 gallon of white paint.
- ☐ **C.** Mix 2 cups of green paint with 2 gallons of white paint.
- ☑ **D.** Add more green paint to the mixture.
- ☑ **E.** Mix 2 cups of green paint with $\frac{1}{2}$ gallon of white paint.

6. To dye yarn, use 600 milliliters of water for every 20 grams of yarn. Complete the table.

Water (mL)	Yarn (g)
600	20
150	5
60	**2**
30	1

7. The directions for a big batch of muffin mix say to use 30 cups of flour and 18 cups of milk.

a Ben wants to make half the recipe. What ratio of flour to milk represents half? **15 : 9**

b Lena wants to use 10 cups of flour and 6 cups of milk. Is her ratio equivalent to the directions? Explain your thinking.

Yes. Dividing 30 and 18 by 3 gives 10 and 6, so 10 : 6 is equivalent to 30 : 18 (both equal 5 : 3).

8. Green paint can be made by mixing 24 teaspoons of blue paint and 16 teaspoons of yellow paint. Nia and Leo each made a smaller amount. Does either mixture make the same green? Explain your thinking.

Nia: Blue 🟦🟦🟦🟦🟦🟦

Nia: Yellow 🟨🟨🟨🟨

Leo: Blue 🟦🟦🟦🟦🟦

Leo: Yellow 🟨🟨🟨

Nia's does: 24 ÷ 4 = 6 and 16 ÷ 4 = 4, so 6 : 4 is equivalent to 24 : 16. Leo's does not: 5 : 3 is not equivalent (24 : 16 = 3 : 2, and 5 is not 1½ times 3).