First 5 Minutes — Review Question

GRADE 6 • TOPIC 5 • LESSON 5.3 | 5 points • Work independently

Lesson 5.3 • Compare Ratios

Complete 4:5 = 20:□.

1. Show each step in your notebook.
2. Explain the operation or rule you used.

Real-Life Connection & Key Concepts

Essential question

How can you compare ratios to solve a problem?

Solve & Discuss It!

Scott mixes 2 cups of almonds with 3 cups of raisins. Ariel mixes 3 cups of almonds with 5 cups of sunflower seeds. If each uses 6 cups of almonds, whose batch is larger?

What we will learn

Compare ratios using equivalent ratios with common terms, ratio tables, and reasoning.

Definitions & rules

Compare ratios by making one corresponding quantity equal.

Use a ratio table or divide to compare per one.

Interpret the comparison in context.

Example 1 — Compare Ratios

Problem

Dustin has 3 hits for every 8 at bats. Adrian has 4 hits for every 10 at bats. Who has the better hits-to-at-bats ratio?

Worked solution

Use a common number of at bats: 40.

Dustin: 3:8 = 15:40.

Adrian: 4:10 = 16:40.

Adrian has the better ratio.

Use equal comparison quantities or rates with the same units before comparing.

At bats	40
Dustin hits	15
Adrian hits	16

Example 2 — Compare Ratios

GRADE 6 • TOPIC 5 • LESSON 5.3 | Guided example • Model and explain

Problem

Tank 1 has 4 guppies for 5 mollies. Tank 2 has 2 angelfish for 3 mollies. If each has 15 mollies, which tank has more fish?

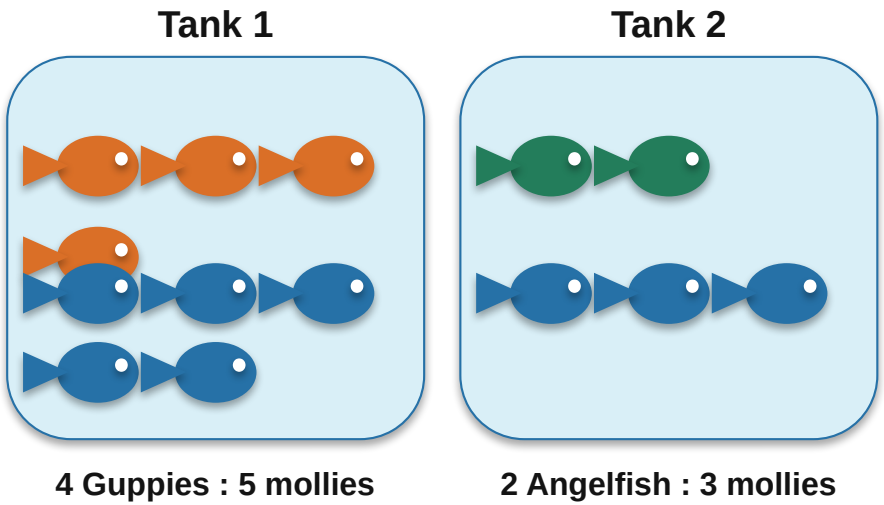
Worked solution

Tank 1: 4:5 × 3 = 12:15; total 27.

Tank 2: 2:3 × 5 = 10:15; total 25.

27 > 25, so Tank 1 has more fish.

Use equal comparison quantities or rates with the same units before comparing.



Individual Work

GRADE 6 • TOPIC 5 • LESSON 5.3 | 10 minutes total • 10 points

Complete all five tasks. Show your reasoning.

7. (p. 283) WMTH schedules 2 minutes of news for every 20 minutes of music. Complete a ratio table for 2, 3, 4, 5 and 6 minutes of news.

8. (p. 283) Write the ratio of 20 minutes of music to 2 minutes of news in simplest form.

9. (p. 283) WMTH: 20 min music, 2 min news. WILM: 25 min music, 4 min news. Which airs more news per hour?

Individual Work — continued

Finish the remaining problems. Check your work.

10. (p. 283) How long does each station take to broadcast 4 minutes of news? Which takes longer?

11. (p. 283) Bert’s Store has 4 books for every 6 games; Gloria’s Store has 5 books for every 8 games. Complete ratio tables and decide which store has the greater books-to-games ratio.

Individual Work — Answer Key

Use equal comparison quantities or rates with the same units before comparing.

7. (p. 283)

Music: 20, 30, 40, 50, 60; news: 2, 3, 4, 5, 6. Each news minute corresponds to 10 music minutes.

8. (p. 283)

20:2 = 10:1 (music : news).

9. (p. 283)

WMTH: $\frac{2}{22}$ of airtime is news. WILM: $\frac{4}{29}$. Since $\frac{4}{29} > \frac{2}{22,}$ WILM broadcasts more news per hour.

10. (p. 283)

WMTH needs 40 music + 4 news = 44 min; WILM needs 25 + 4 = 29 min. WMTH is longer.

11. (p. 283)

Bert: 4:6, 8:12, 12:18, 16:24, 20:30.
Gloria: 5:8, 10:16, 15:24, 20:32, 25:40.
$\frac{16}{24} > \frac{15}{24}$; Bert.

Group Work

GRADE 6 • TOPIC 5 • LESSON 5.3 | 8 minutes total • 10 points

Work together. Each person must contribute a solution.

12. (p. 283) Homemade soy to lime is 7:6; store-bought is 11:9. Which has the greater soy-to-lime ratio?

13. (p. 284) Bouquet 1 uses milkweeds to tickseeds 3:5; bouquet 2 uses tickseeds to canna lilies 4:5. Each has 20 tickseeds. Which has more flowers?

Group Work — continued

GRADE 6 • TOPIC 5 • LESSON 5.3 | 8 minutes total • 10 points

Agree on a solution and be ready to explain it.

14. (p. 284) Lauren travels 320 mi on 10 gal; Melissa 280 mi on 8 gal. Who travels farther on 40 gal?

15. (p. 284) Fran’s purple-to-pink ratio is 9:3; Mia’s is 4:2. Make tables and compare at 6 pink flowers.

Group Work — Answer Key

GRADE 6 • TOPIC 5 • LESSON 5.3 | Discuss and justify

Use equal comparison quantities or rates with the same units before comparing.

12. (p. 283)

Use common 18 parts lime: homemade 21:18; store 22:18. Store-bought has greater soy-to-lime ratio.

13. (p. 284)

First bouquet: 12 milkweeds + 20 tickseeds = 32. Second: 20 tickseeds + 25 canna lilies = 45. Second has more.

14. (p. 284)

Lauren: 320 ÷ 10 = 32 mpg; 40 gal → 1,280 mi. Melissa: 280 ÷ 8 = 35 mpg; 40 gal → 1,400 mi. Melissa.

15. (p. 284)

Fran purple/pink: $\frac{9}{3}$, $\frac{18}{6}$, $\frac{27}{9}$, $\frac{36}{12}$. Mia: $\frac{4}{2}$, $\frac{8}{4}$, $\frac{12}{6}$, $\frac{16}{8}$. At 6 pink, Fran 18 purple; Mia 12.

Exit Ticket

GRADE 6 • TOPIC 5 • LESSON 5.3 | 2 minutes • Independent check

Before you leave, solve this problem.

Compare 7:10 and 10:14.

Show your work.

Write the answer with the correct units or graph, if needed.