Lesson 3-5 · Session 1

Comparing Ratios with Common Terms

Name _____ Date _____ Period _____

Maryland Standard 6.AT.3 · Learning target — I can compare two ratios by scaling them until they share a common term.
Show a model, calculation, or explanation. Answer every part and label units when needed.

Exercises 1–12 earn 1 point for a correct response and 1 for supporting work. Spiral Review and Test Practice earn 1 point each.

Learn from a model

REMEMBER

- To compare two ratios, rewrite them so they share a common term (like the same first or second number).
- Once the terms match, compare the other numbers directly.
- Watch out — a bigger first number does not make a stronger mix; the pairing is what matters.
- Check it — after scaling, one term must match exactly before you compare the other.

WORKED EXAMPLE

Comparing Two Mixes Fairly Mix P is 2 cocoa to 5 milk. Mix Q is 3 cocoa to 7 milk. Which is more chocolatey?
Step 1 Pick the quantity to match — cocoa. Find the LCM of 2 and 3 6.
Step 2 Scale Mix P. ×3 6 cocoa : 15 milk
Step 3 Scale Mix Q. ×2 6 cocoa : 14 milk
Step 4 Same cocoa, so compare the milk. less milk = more chocolatey.
Answer Mix Q is more chocolatey: for 6 cocoa it has only 14 milk.

Practice

1. Compare 2:5 and 3:5. Which ratio has more of the first quantity relative to the second?

Answer _____

SHOW YOUR THINKING

2. Rewrite 1:3 and 2:9 so both have the same second term, then compare them.

Answer _____

SHOW YOUR THINKING

3. A red paint mix is 2:7 (red:white) and a blue paint mix is 2:5 (blue:white). Which mix is more concentrated? Explain.

Answer _____

EXPLAIN WITH MATHEMATICAL EVIDENCE

4. Scale each ratio so the first term is 12.

a. 3 : 5 = 12 : _____
b. 4 : 9 = 12 : _____
c. 6 : 7 = 12 : _____
d. 2 : 11 = 12 : _____
e. 1 : 8 = 12 : _____

Answer _____

SHOW YOUR THINKING

5. Fruit Punch Strength. Batch 1 uses 4 scoops of mix to 9 cups of water. Batch 2 uses 6 scoops to 14 cups. Scale both to 12 scoops, then decide which batch is stronger.

Answer _____

SHOW YOUR THINKING

6. Locker Room Colors. Hall A has 5 blue lockers for every 8 gray lockers. Hall B has 3 blue for every 5 gray. Scale both to 15 blue lockers, then decide which hall has more gray lockers per 15 blue lockers.

Answer _____

SHOW YOUR THINKING

7. Bird Seed Blends. Blend X is 7 sunflower seeds to 4 millet seeds. Blend Y is 5 sunflower seeds to 3 millet seeds. Scale both to 35 sunflower seeds, then decide which blend has more millet.

Answer _____

SHOW YOUR THINKING

8. Imani compared 3 : 8 and 5 : 11 and said 5 : 11 is stronger because 5 is greater than 3. Explain why that reasoning is not enough, then compare the two ratios correctly. Sentence Frame: "I know this because..."

Answer _____

EXPLAIN WITH MATHEMATICAL EVIDENCE

9. Which is stronger: 2 syrup to 7 water, or 3 syrup to 11 water?

Answer _____ the stronger mix and why

EXPLAIN WITH MATHEMATICAL EVIDENCE

10. Scale 4 : 9 and 5 : 12 so both have 20 in the first term, then compare.

Answer _____ both scalings and the comparison

SHOW YOUR THINKING

11. Same or Different? Is 6 : 10 the same strength as 9 : 15? Show your reasoning.

Answer _____ your answer and reasoning

EXPLAIN WITH MATHEMATICAL EVIDENCE

12. Find the Mistake. Zoe says 5 : 9 is stronger than 3 : 5 because 5 is bigger than 3. Explain the mistake.

Answer _____ the mistake

EXPLAIN WITH MATHEMATICAL EVIDENCE

Spiral review

13. From Lesson 3-4 Session 1. A ratio of 1 : 7 gives which pair when x = 5?

Answer _____

SHOW YOUR THINKING

14. From Lesson 3-3 Session 1. Scale 8 : 3 by 5.

Answer _____

SHOW YOUR THINKING

15. From Lesson 2-7 Session 1. Find 57.6 ÷ 9.

Answer _____

SHOW YOUR THINKING

Test practice

16. Scaled to 10 first terms, 2 : 7 becomes —

□ A. 10 : 14	□ B. 10 : 7
□ C. 2 : 35	□ D. 10 : 35

17. 6 : 15 and 2 : 5 are —

- □ A. equivalent
- □ B. not equivalent
- □ C. opposites
- □ D. unit rates

18. With equal first terms, a smaller second term means the mix is —

□ A. weaker	□ B. stronger
□ C. the same	□ D. larger

Check and revise

CHECK YOUR MATHEMATICS	HOW DID IT GO?
Use the same order and the same units for both comparisons. Every part answered / Work shown / Units labeled when needed	I can do this: Independently / With a hint / With help Question to revisit: _____

One correction or question I want to discuss: _____

Check that corresponding quantities stay in order. Label units and explain what your answer means.