

**Practice
10-3****Equivalent Ratios**

1. A teacher kept track of what students consumed at a school picnic. For three grades, the ratios of the amount of water consumed to the amount of fruit juice consumed were equivalent. Complete the table.

Grade	Water (gallons)	Juice (gallons)
5th	6	7
6th	24	_____
7th	18	_____

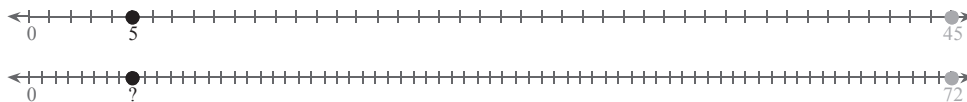
2. The attendant at a parking lot compared the number of hybrid vehicles to the total number of vehicles in the lot over a weekend. The ratios for the three days were equivalent. Complete the table.

Day	Hybrids	Total
Fri.	4	9
Sat.	_____	63
Sun.	32	_____

3. A baker uses 45 cups of flour and 72 cups of water for a recipe. The flour-to-water ratio is 45 : 72. How much water does the baker need if he uses only 5 cups of flour? Complete the table.

Flour	Water
45 cups	72 cups
5 cups	_____ cups

Double Number Lines



4. The ratio of the weight of zinc to the weight of all raw materials used by a factory is 18 : 42. How many tons of zinc would the factory use if it were to use 7 tons of raw materials? Complete the table.

Zinc	Raw Materials
18 tons	42 tons
_____ tons	7 tons

Double Number Lines



5. The track team at your school has 6 sprinters and 8 distance runners. The ratios 3 : 4, 24 : 33, 12 : 16, and 6 : 8 show the ratio of sprinters to distance runners at other schools. Which ratios are equivalent to the ratio for your school? Check all that apply.
- ☐ A. 6 : 8 ☐ C. 24 : 33
☐ B. 3 : 4 ☐ D. 12 : 16
6. A teacher is writing a quiz. He wants the ratio of the number of easy questions to the total number of questions to be 18 : 21. If the teacher wants fewer than 18 easy questions on the quiz, how many easy questions should he write?
7. **Sports** Vonna scored 48 goals at soccer practice. Her ratio of goals to misses was 8 : 7. How many times did she miss?
8. **Reasoning** Last season, Kyle had 21 hits and 35 strikeouts. So far this season, Kyle claims to have the same ratio of hits to strikeouts. Yet he has struck out only 5 times. Is it possible to have the same ratio of hits to strikeouts in seasons with different numbers of strikeouts? Explain.
9. **Mental Math** The ratio of boys to girls at a movie is 8 : 7. If there are 21 girls, how many boys are at the movie?
10. **Error Analysis** A survey of 25 people found that 15 had the same Internet service provider. The survey reported this information as the ratio of 15 : 25. Reports about the survey used the ratios 3 : 5, 9 : 15, 18 : 30, and 21 : 31 to describe the results.
- a) Which ratio is not equivalent to the ratio 15 : 25?
- ☐ A. 21 : 31 ☐ C. 18 : 30
☐ B. 3 : 5 ☐ D. 9 : 15
- b) What was the error?
- ☐ A. The same number was not added to or subtracted from the terms of the original ratio.
☐ B. The terms have a common factor greater than 1.
☐ C. The terms of the ratio are reversed.
☐ D. The terms of the original ratio were not multiplied or divided by the same number.
11. **Writing** Raul took a test that had 40 questions. The ratio of his correct answers to the number of questions was 3 : 5.
- a) Explain how you would use equivalent ratios to find the number of questions Raul answered correctly.
- b) Find the number of questions he answered correctly.

12. A small company has a fleet of 4 pickup trucks and 3 delivery vans. A larger company has the same ratio of pickup trucks to delivery vans. If the larger company has 52 pickup trucks, how many delivery vans does it have?
13. In basketball, some baskets are worth two points. Others are worth three points. In one game, a basketball team had 40 two-point tries and 35 three-point tries. Which of the following is a ratio of the number of two-point tries to the number of three-point tries?
- ☐ A. 8 : 7 ☐ C. 8 : 15
☐ B. 7 : 8 ☐ D. 7 : 15

14. **Think About the Process** A science class went to the seashore. The students surveyed three regions of a large tidal pool. They counted the crabs and snails. The results are in the table.

	Region		
Animal	A	B	C
Crabs	5	8	3
Snails	25	40	15

The area of the tidal pool is 98 square meters.

The class wants to write the ratio of the number of crabs in the regions surveyed to the number of crabs in the entire pool. This ratio is equivalent to the ratio of the area of the regions surveyed to the area of the entire pool. What additional information does the class need to find the number of crabs in the entire pool?

- ☐ A. The ratio of the area of the three regions surveyed to the area of the coast
☐ B. The area of the three regions surveyed
☐ C. The ratio of the area of the tidal pool to the area of the coast
☐ D. The total number of crabs and snails in the three regions surveyed
15. **Think About the Process** At Field Day, Mr. Arroyo's class earned 3 first-place ribbons, 9 second-place ribbons, and 6 third-place ribbons. A student in Mr. Arroyo's class earned a ratio of first- to second-place ribbons equivalent to the class's ratio. What number do you need to find the number of second-place ribbons earned by this student?
- ☐ A. The total number of ribbons earned by the student
☐ B. The number of first-place ribbons earned by the student
☐ C. The total number of second-place ribbons earned by the students at the school
☐ D. The number of third-place ribbons earned by the student