Name:



Lesson 7.1 Finding Ratio

Solve.

A packet of breakfast cereal contains these ingredients:

1. Find the total mass of the ingredients in the packet of breakfast cereal.

2. Complete the table to show the ratios.

The Ratio of	Ratio
The mass of walnuts to the mass of cornflakes	
The mass of rolled oats to the total mass of cereal	
The total mass of cereal to the mass of walnuts	
The total mass of dried fruit and walnuts to the mass of cornflakes	
The total mass of cereal to the mass of cornflakes	

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Solve.

- **3.** A concrete mixture is made up of 3 parts water, 4 parts cement, and 5 parts sand. Find the ratios of:
 - a. the amount of cement to the amount of water

b. the amount of sand to the amount of the concrete mixture

4. There are 20 animals in a pond. Of these animals, 7 are frogs, 8 are fish, and the rest are tortoises. Find the ratios of:
a. the number of frogs to the total number of animals

b. the number of fish to the number of tortoises

5. Malik had \$56 at first. He had \$27 left after giving some money to both Anne and John. If John received \$15, what was the ratio of the amount of money Anne received to the amount of money John received? Name: _

Lesson 7.2 Equivalent Ratios

Find the missing number in each set of equivalent ratios.

1.	3:7 =	: 28	2.	4:9 = 24:
3.	8:5 =	<u> </u>	4.	2 : 7 = 12 :
5.	5 : 6 = 60 :		6.	28 : 49 = 4 :
7.	81 : 27 =	:: 3	8.	72 : 48 = 12 :

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Write	e each ratio in simplest form.		
9.	14 : 21 =	10.	45 : 18 =
	F (07.45
11.	56 : 32 =	12.	27:45 =
10	64 . 10 -	14	66.79 -
13.	04:40 —	14.	00:78 —
45	40 62 -		10 10
15.	42:03 =	10.	40 : 12 =

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Lesson 7.3 Real-World Problems: Ratios

Solve. Show your work.

A worker uses 4 gray tiles for every 5 blue tiles that he uses.
 a. If he uses 60 gray tiles, how many blue tiles does he use?

b. If he uses 540 tiles altogether, how many gray tiles does he use?

At a certain time of day, a pole, 5 meters tall, casts a 3-meter shadow.
a. The shadow of a building beside the pole is 18 meters long. How tall is the building?

b. How long will the shadow of a 45-meter building be?



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3. There were 18 boys and 16 girls on a school bus. At a bus stop, 4 girls got off the bus and 3 boys got on the bus. What is the ratio of the number of boys to the number of girls on the bus now?

4. The ratio of the length of a rectangle to its width is 5 : 3. The width is 16 inches shorter than the length. Find the area of the rectangle.

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Lesson 7.4 Ratios in Fraction Form

Solve.

Rayza baked 20 chicken pies. Michelle baked 12 more chicken pies than Rayza.

1. What is the ratio of the number of chicken pies Michelle baked to the number of chicken pies Rayza baked?

2. Express the number of chicken pies Michelle baked as a fraction of the number of chicken pies Rayza baked.

3. What fraction of the number of chicken pies baked by Michelle was the number of chicken pies baked by Rayza?

4. What fraction of the total number of chicken pies baked by both girls was the number of chicken pies baked by Michelle?

5. How many times the number of chicken pies baked by Rayza was the number of chicken pies baked by Michelle?

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Solve.

The number of tropical fish Leon has is $\frac{3}{8}$ of the number of tropical fish Haru has.

6. Find the ratio of the number of tropical fish Leon has to the number of tropical fish Haru has.

7. What fraction of the number of tropical fish Haru has is the number of tropical fish Leon has?

8. How many times the number of tropical fish Leon has is the number of tropical fish Haru has?

9. If Leon has 35 fewer tropical fish than Haru, how many fish do they have altogether?

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Lesson 7.5 Comparing Three Quantities

Find the missing numbers in each set of equivalent ratios.

1. 2:7:4 = 10:_____:





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Name:		Date:
Write	e each ratio in simplest form.	
5.	12 : 8 : 20 = :	:
6.	36 : 18 : 30 = :	:
7.	27 : 45 : 72 = :	;
•		

8. 32 : 56 : 64 = _____ : _____ : _____

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Lesson 7.6 Real-World Problems: More Ratios

Solve. Show your work.

1. The ratio of Sarah's age to Keisha's age is 4 : 5 this year. Keisha was 12 years old 3 years ago. Find the ratio of Sarah's age to Keisha's age 9 years from now.

2. Ann starts a race with Jane when they are 12 meters apart. For every 7 meters that Ann runs, Jane runs 4 meters. How far does Ann have to run to catch up with Jane?

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3. Miss Emily spent $\frac{5}{9}$ of her money on 10 stuffed bears and 5 dolls. She could buy 20 stuffed bears with the rest of her money. What was the ratio of the cost of a doll to the cost of a stuffed bear?

4. The figure is made up of two circles P and Q. The ratio of the area of circle P to the area of circle Q is 3 : 2. The shaded area is ⁵/₈ of the area of circle Q. What is the ratio of the unshaded area of the figure to the total area of the figure?



Put on Your Thinking Cap!

Solve. Show your work.

1. A basket contains red, blue, and green ribbons. Of these ribbons, ¹/₃ are red. The ratio of the number of blue ribbons to the number of green ribbons is 2 : 5. There are 162 fewer blue ribbons than green ribbons. How many ribbons are in the basket?

2. Matthew and Ava have some money in the ratio 5 : 2. If Matthew gives \$78 to Ava, they will have the same amount of money. How much money do they have altogether?

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3. Chloe and Diane have some storybooks in the ratio 5 : 3. Chloe gives half of her books to Diane. Diane then has 18 books more than Chloe. How many books do they have altogether?

4. There were some square tiles and triangular tiles in a box. The ratio of the number of square tiles to the number of triangular tiles was 3 : 8. After Paul put 79 square tiles into the box and removed 106 triangular tiles, the number of square tiles and the number of triangular tiles became equal. How many tiles were in the box at first?

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5. A fruit seller had some apples and pears in the ratio 2 : 5. He sold 261 pears and bought 261 more apples. After that, he had as many apples as pears. How many apples did the fruit seller have at first?

- 6. The number of antique coins in Andy's collection was $\frac{2}{5}$ that of the number of coins in Bobby's collection. Then Bobby gave $\frac{1}{2}$ of his collection to Andy.
 - **a.** What is the new ratio of the number of antique coins that Andy has to the number of antique coins that Bobby has?

b. At this point, Andy has 108 more coins than Bobby. How many antique coins did Bobby have at first?

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7. A box of marbles was shared among Michael, Samuel and Royston. Michael got $\frac{2}{5}$ of them and the remainder was shared between Samuel and Royston in the ratio 5 : 4. Michael got 118 marbles more than Royston. How many marbles were in the box?