

# 5

# Ratios

## 5.1A Finding Ratio

### Basics

1. Look at the shapes.



- (a) What is the ratio of hearts to stars? \_\_\_\_\_
- (b) What is the ratio of stars to clouds? \_\_\_\_\_
- (c) What is the ratio of stars to hearts? \_\_\_\_\_
- (d) What is the ratio of clouds to stars to hearts? \_\_\_\_\_
- (e) What is the ratio of hearts to the total number of shapes? \_\_\_\_\_
- (f) Write a question and a ratio that matches the picture.

2. For every 3 pears a grocery store sells, they sell 8 oranges.

- (a) What is the ratio of pears to oranges? \_\_\_\_\_
- (b) What is the ratio of oranges to pears? \_\_\_\_\_
- (c) What is the ratio of pears to the total number of fruit?  
\_\_\_\_\_

**Practice**

5. A rectangle has a length of 3 yards and a width of 2 feet. What is the ratio of the length of the rectangle to its width in feet?

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6. Evan is 3 years 1 month old. His sister is 5 years old. Express the ratio of Evan's age to that of his sister using whole numbers.

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7. The table below shows the types and numbers of vehicles in a parking lot.

Types of Vehicles	Convertibles	Coupes	Minivans	Sedans	Trucks
Number	3	7	13	11	9

- (a) What is the ratio of the number of minivans to the number of all the other vehicles combined?

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- (b) What is the ratio of the number of convertibles to all the vehicles in the parking lot?

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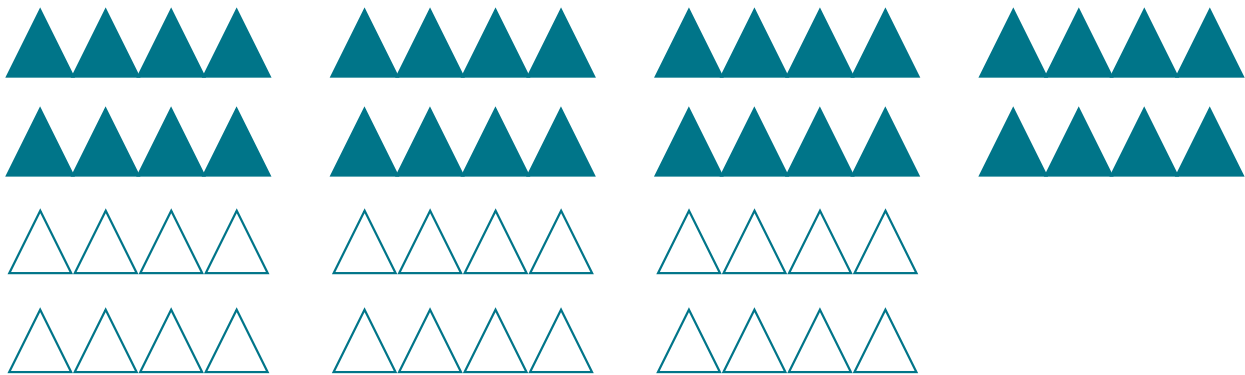
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## 5.1B Equivalent Ratios

### Basics

10. There are groups of triangles as shown below.



(a) What is the ratio of the number of black triangles to the number of white triangles? Express the ratio in simplest form.

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(b) What is the ratio of white triangles to the number of black triangles? Express the ratio in simplest form.

\_\_\_\_\_

11. Draw lines to match equivalent ratios.

(a) 2 : 1

(b) 6 : 9

(c) 7 : 5

(d) 10 : 3

(e) 2 : 3

(f) 100 : 30

(g) 8 : 4

(h) 35 : 25

14. At a farm stand, there are 16 crates of tomatoes and 40 crates of potatoes.

- (a) What is the ratio of the number of crates of tomatoes to the number of crates of potatoes? Express the ratio in simplest form.

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- (b) What is the ratio of the number of crates of potatoes to the total number of crates of potatoes and tomatoes? Express the ratio in simplest form.

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15. Three friends were competing to see who would walk the furthest distance in a week.

Lincoln walked 20 miles. Amelia walked 12 miles less than Lincoln, and 20 miles less than Jett. Find the ratio of the distance Lincoln walked to the distance Amelia walked to the distance Jett walked.



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## Challenge

19. The ratio of the lengths of two pieces of ribbon is  $2 : 7$ . The shorter piece of ribbon is 12 m long. Find the total length of the two pieces of ribbon.
20. A sum of money is shared between Marco and Madeline in the ratio  $2 : 3$ . If Madeline were to give \$16 to Marco, they would have the same amount of money. How much money does Marco have?



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## 5.2 Ratios and Fractions

### Basics

1. Express each ratio as a fraction in simplest form:

(a)  $1 : 4$  \_\_\_\_\_

(b)  $12 : 18$  \_\_\_\_\_

(c)  $14 : 5$  \_\_\_\_\_

(d)  $25 : 10$  \_\_\_\_\_

2. The ratio of the length of Ribbon  $A$  to the length of Ribbon  $B$  is  $5 : 4$ . Express the ratio of the length of Ribbon  $A$  as a fraction of the length of Ribbon  $B$ .

3. There are  $\frac{3}{5}$  as many apples as pears. What is the ratio of the number of apples to the numbers of pears?

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6. Paula and Kawai shared \$312 in the ratio of 6 : 7. How much money did each person get?

7. A recipe calls for  $1\frac{1}{2}$  cups water,  $\frac{1}{4}$  cup butter,  $\frac{1}{8}$  cup sugar, and 2 cups flour. What is the ratio of water to butter to sugar to flour?



## Challenge

10. The ratio of Eli's age to Jamal's age is  $3 : 4$ . The ratio of Jamal's age to Avery's age is  $2 : 3$ .

(a) Express Eli's age as a fraction of Avery's age. Give your answer in its simplest form.

(b) If Jamal is 28 years old, how many years older than Eli is Avery?

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