



LESSON 13

Find Equivalent Ratios

What You Need

- Ratio Tables
- Ratio Cards
- grid paper, 1 sheet per student

What You Do

- 1 Give each player one **Ratio Table** to complete.
- 2 Shuffle the **Ratio Cards** and place them facedown in a pile.
- 3 Determine who goes first.
- 4 Take the top card. If the ratio on the card is equivalent to the ratio in your table, keep the card and record the ratio in the table. If the ratio is not equivalent, place the card faceup in a discard pile.
- 5 The next player has the option to take the discarded card or select the top card from the pile.
- 6 Try to record your ratios so the numbers in each row increase from left to right.
- 7 The first player to complete a ratio table wins.

KEEP IN MIND . . .

The first number in the ratio aligns with the first row of the table.

12 : 9

		12		
		9		



Check Understanding

The table shows that the ratio of red marbles to blue marbles in a bag is 12 : 10. Complete the table by writing four equivalent ratios. Explain how you know they are equivalent ratios.

Red		12			
Blue		10			



Go Further

Use grid paper and your **Ratio Table** to make a graph. Plot points on the graph to represent the ratios. Use the graph to find two additional equivalent ratios.



4	
2	

4	
6	

3	
9	

3	
12	

10	
2	

12	
9	

 $2:1$ $8:4$ $6:3$ $10:5$ $6:9$ $2:3$ $8:12$ $10:15$ $1:3$ $2:6$ $4:12$ $5:15$ $15:5$ $5:6$ $4:10$

 $1 : 4$ $4 : 16$ $2 : 8$ $5 : 20$ $5 : 1$ $15 : 3$ $20 : 4$ $25 : 5$ $4 : 3$ $8 : 6$ $16 : 12$ $20 : 15$ $3 : 1$ $4 : 1$ $9 : 3$



Use Ratio and Rate Vocabulary

What You Need

- Recording Sheet

What You Do

- 1 Read the problem on the **Recording Sheet**. Think about how to solve it.
- 2 Read the paragraphs that tell how to solve the problem.
- 3 Use words from the word bank or numbers from the number bank to fill in the blanks. You may use some numbers more than once.
- 4 Take turns filling in the blanks.
- 5 When all the blanks are filled in, read the paragraphs aloud. Do they make sense?
- 6 Fix any mistakes if needed.

KEEP IN MIND . . .

You might change your mind after you fill in some blanks. It's okay to erase!



Check Understanding

Alvin makes pillows for his room. He buys 4.5 feet of fabric for \$9.60. What is the cost of the fabric per yard? Use ratio and rate vocabulary to tell how to solve this problem.



Go Further

Use words from the word bank to describe how to determine the cost of buying 1 yard of each type of fabric that Harper buys.



Use Ratio and Rate Vocabulary

RECORDING SHEET

► Harper is buying fabric to make pillows. At the store, 3 yards of flannel fabric costs \$12.60, and 5 feet of fleece fabric costs \$8.75. Which is the better buy?

I know the units need to be the same to compare the prices.

First, I _____ the length of the flannel fabric to feet.

The _____ of feet to yards is 3 feet : 1 yard.

The _____ is 3 feet per yard. The _____ is 3.

I _____ the number of yards by the unit rate.

The result is _____.

The flannel fabric has a length of _____ feet.

Now, I can find the unit cost of each fabric in _____

per _____.

I _____ to find a(n) _____.

Flannel

Price (\$)	12.60	
Length (ft)		1

Fleece

Price (\$)	8.75	
Length (ft)		1

The flannel fabric costs \$_____ per foot. The fleece fabric costs

\$_____ per foot.

The flannel fabric costs _____ per foot, so it is the better buy.

Word Bank

convert
divide
dollars
equivalent ratio
foot
less
more
multiply
per
rate
ratio
unit rate

Number Bank

1
1.40
1.75
3
5
8.75
9
12.60



LESSON 18

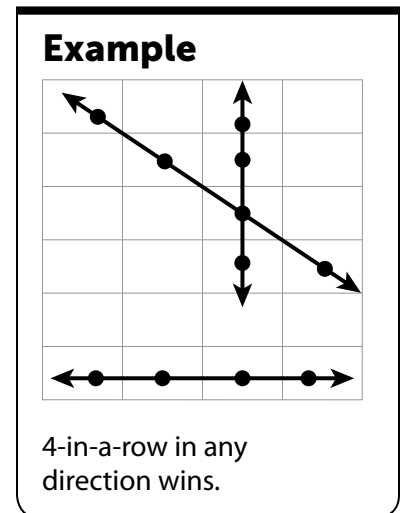
Percent 4-in-a-Row

What You Need

- Percent Cards
- Game Board, 1 per player
- counters, 24 of one color per player

What You Do

- 1 Shuffle the **Percent Cards** and place them facedown in a pile.
- 2 Take turns. Draw a **Percent Card**, find the value described, and place a counter on that square on your **Game Board**. Have the other players check your work. If you are not correct, remove your counter from the square.
- 3 Continue taking turns picking a card, finding the value, and placing a counter. The first player to place four counters in a row either vertically, horizontally, or diagonally wins.
- 4 If no player has four counters in a row after going through all of the **Percent Cards**, shuffle the cards and continue playing until a player has 4-in-a-row.



Check Understanding

At the school assembly, 80% of the 380 students wore the school colors. How many students wore the school colors? Show your work.



Go Further

Find 20% of 40 and 40% of 20. What do you notice about these answers? Do you think this relationship will be similar for other values? Explain.



Percent 4-in-a-Row

GAME BOARD

20	40	280	50
275	320	60	150
125	30	140	500
375	25	18	90
180	36	120	10
625	15	250	160



80% of 25

20% of 200

20% of 250

110 is 40% of
what number?

70 is 25% of
what number?

80 is 25% of
what number?

30% of 200

60% of 250

60% of 50

80% of 175

200 is 40% of
what number?

300 is 80% of
what number?



20% of 125

45% of 40

75% of 120

20% of 50

90% of 40

60% of 200

72 is 40% of
what number?

250 is 40% of
what number?

12 is 80% of
what number?

125 is 50% of
what number?

8 is 5% of
what number?

75 is 60% of
what number?