Ratio Pair Paths

Build tables, compare rates, and plot pairs.

CCSS.Math.Content.6.RP.A.3a · Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

Name _____ Date _____

Match Both Parts

Multiply both parts of a ratio by the same positive whole number, or divide both by the same nonzero whole number, to make equivalent pairs. Put the first quantity on the x-axis and the second quantity on the y-axis, then plot each pair. Compare ratios by making the same first quantity or finding a unit rate.

Worked example

The figure shows the bead mix for one keychain. Make a table for 1, 2, and 3 keychains.

1. Read the counts: red:blue = 11:13.
2. For 2 keychains, multiply both parts by 2.
3. For 3 keychains, multiply both parts by 3.
4. Table: 1, 2, 3 keychains match 11, 22, 33 red and 13, 26, 39 blue.

Keychains: 1, 2, 3; red beads: 11, 22, 33; blue beads: 13, 26, 39.

Bead color	Count in one keychain
Red	11
Blue	13

1. Practice

For every 4 notebooks, there are 6 folders. Complete the ratio table.

Notebooks	Folders
4	6
8	
12	

2. Practice

Which table is equivalent to 9 tickets for 6 game turns? A: Tickets 9, 18; turns 6, 15. B: Tickets 9, 18; turns 6, 12.

3. Practice

A printer makes 8 posters in 4 minutes. At the same rate, how many posters does it make in 10 minutes?

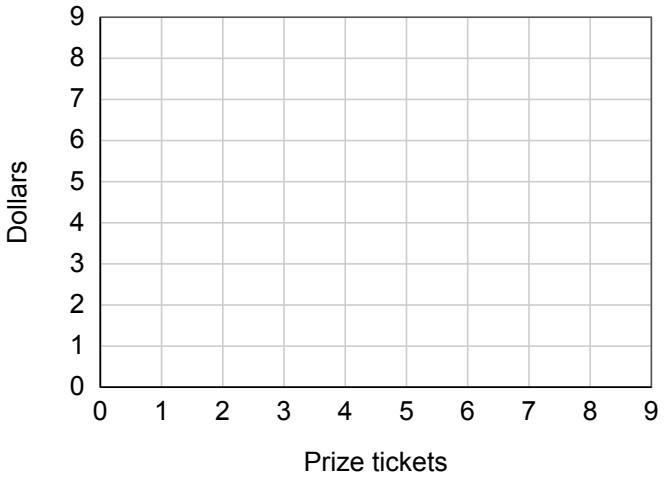
4. Practice

Table A has 3 songs in 12 minutes. Table B has 5 songs in 15 minutes. Which table has fewer minutes per song?

5. Apply

At the game club, 3 prize tickets cost $2. Use the grid. Make a table for 0, 3, 6, and 9 tickets. Plot the pairs (tickets, dollars). Then find the cost of 12 tickets. Keep the plotted points separate because tickets are whole items.

Tickets	Dollars



6. Apply

A library display has 4 adventure books for every 7 books total. Are 24 adventure books the matching count for a 42-book display? Use a ratio table.

Adventure books	All books

7. Challenge

Each whole bar is a batch of trail mix. Shaded sections are raisin scoops. For 40 scoops of each mix, which mix has more raisin scoops? Explain with equivalent ratios.



What to accept

Accept equivalent ratio tables in either orientation. For the grid problem, accept correctly plotted points with the coordinates ordered as (tickets, dollars).

1. Practice

12, 18

Notebooks	Folders
4	6
8	12
12	18

2. Practice

B

3. Practice

20 posters

4. Practice

Table B

5. Apply

Table: tickets 0, 3, 6, 9; dollars 0, 2, 4, 6. Plot (0,0), (3,2), (6,4), and (9,6). Twelve tickets cost $8.

Multiply the ratio 3 tickets:$2 by 0, 1, 2, and 3 for the table and plotted pairs. Multiply by 4 to find the cost of 12 tickets.

Tickets	Dollars
0	0
3	2
6	4
9	6

6. Apply

Yes: 4/7 = 24/42.

Multiply both quantities by 6.

Adventure books	All books
4	7
24	42

7. Challenge

Mix B has more raisins. Mix A: 3/8 = 15/40, so it has 15 raisin scoops. Mix B: 4/10 = 16/40, so it has 16 raisin scoops.