

Ratio Table Quest

Build, complete, graph, and compare equivalent ratios.

GRADE 6 • 6.RP.A.3a

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 _____

SCALE BOTH QUANTITIES

Equivalent ratios keep the same relationship between two quantities. Multiply or divide both quantities by the same factor to make a table of equivalent ratios. When you graph a ratio, put the first quantity on the x-axis and the second quantity on the y-axis.

WORKED EXAMPLE

A card shop sells 13 card sleeves for 26 points. Make two equivalent ratios.

1. Start with the ratio 13:26.
2. Multiply both quantities by 2: 26:52.
3. Multiply both quantities by 3: 39:78.

Answer: Equivalent ratios include 13:26, 26:52, and 39:78.

PRACTICE 6 problems

- 1** Complete the table of equivalent ratios.
Books: 4 | 8 | 12 Points: 9 | x | y

ANSWER _____

- 2** A necklace uses 5 orange beads for every 7 green beads. On a coordinate plane, let x be orange beads and y be green beads. Plot the points for 5, 10, and 15 orange beads.

ANSWER _____

- 3** A mural paint mix uses 6 cups of blue paint for 11 cups of white paint. If the mix uses 18 cups of blue paint, how many cups of white paint does it use?

ANSWER _____

- 4** Compare the tables. Printer A Minutes: 3 | 6 | 9 Stickers: 18 | 36 | 54 Printer B Minutes: 4 | 8 | 12 Stickers: 20 | 40 | 60 Which printer makes more stickers per minute?

ANSWER _____

- 5** A trail map uses 9 cm to show 4 km. Complete the equivalent ratio: 27 cm shows x km.

ANSWER _____

- 6** Compare the tables. Table C Bracelets: 4 | 8 Coins: 28 | 56 Table D Bracelets: 6 | 12 Coins: 36 | 72 Which table shows fewer coins per bracelet?

ANSWER _____

APPLY IT Show your work

- 1** A video creator edits 4 short clips in 6 minutes. Make a table for 4, 8, and 12 clips. Then plot the ordered pairs, where x is clips and y is minutes.

WORK SPACE

ANSWER _____

- 2** Tablet A uses 4 GB of storage for 16 game downloads. Tablet B uses 6 GB of storage for 18 game downloads. Make equivalent-ratio tables for 144 downloads. Which tablet uses less storage for 144 downloads?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

On a coordinate plane, x is laps completed and y is points earned. Team A earns 18 points for 6 laps. Team B earns 20 points for 5 laps. Make an equivalent-ratio table for each team through 30 laps. Which team's graph is steeper? Explain using the points at 30 laps.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Complete the table of equivalent ratios. Books: 4 8 12 Points: 9 x y	x = 18, y = 27
2	A necklace uses 5 orange beads for every 7 green beads. On a coordinate plane, let x be orange beads and y be green beads. Plot the points for 5, 10, and 15 orange beads.	(5, 7), (10, 14), (15, 21)
3	A mural paint mix uses 6 cups of blue paint for 11 cups of white paint. If the mix uses 18 cups of blue paint, how many cups of white paint does it use?	33 cups
4	Compare the tables. Printer A Minutes: 3 6 9 Stickers: 18 36 54 Printer B Minutes: 4 8 12 Stickers: 20 40 60 Which printer makes more stickers per minute?	Printer A
5	A trail map uses 9 cm to show 4 km. Complete the equivalent ratio: 27 cm shows x km.	x = 12
6	Compare the tables. Table C Bracelets: 4 8 Coins: 28 56 Table D Bracelets: 6 12 Coins: 36 72 Which table shows fewer coins per bracelet?	Table D

PART 2 • APPLY IT

- Table: 4 clips, 6 minutes; 8 clips, 12 minutes; 12 clips, 18 minutes. Points: (4, 6), (8, 12), (12, 18).** Double and triple both parts of 4:6. Use clips as the x-coordinate and minutes as the y-coordinate.
- Tablet A: 144 downloads use 36 GB. Tablet B: 144 downloads use 48 GB. Tablet A uses less storage.** Multiply Tablet A's ratio by 9 and Tablet B's ratio by 8 to reach 144 downloads. Compare 36 GB and 48 GB.

CHALLENGE

Team A: (6, 18), (12, 36), (18, 54), (24, 72), (30, 90). Team B: (5, 20), (10, 40), (15, 60), (20, 80), (25, 100), (30, 120). Team B's graph is steeper because at 30 laps it has 120 points, which is more than Team A's 90 points.

Accept correctly scaled equivalent-ratio tables, even if students include additional valid rows. For graphing items, ordered pairs must have the first quantity as x and the second quantity as y.