Tables of Equivalent Ratios

Name: _____	Date: _____	Score: _____ / 24

Quick Review

Equivalent ratios are ratios that name the same comparison, like $2:5$, $4:10$, and $6:15$. You can build them by **multiplying both parts by the same number** (or dividing both by the same number). A **ratio table** lines up equivalent ratios in rows or columns so you can spot patterns and fill in missing values. To find a missing number, ask "what did the known part get multiplied by?" and do the same to the other part. Every column of the table keeps the ratio the same.

◇ **Example:** A ratio table for paint shows 2 cups blue to 5 cups white. Fill in the missing value: $2:5$, $4:10$, $6:\square$.
⇒ Look at the pattern in the blue column: 2, then 4, then 6 — each step adds 2, and 6 is 2×3. Whatever we multiply the blue part by, we must multiply the white part by the same number. The white part started at 5, so for the third column we compute $5\times 3=15$. We can check: $6:15$ simplifies back to $2:5$ by dividing both by 3. So the missing value is 15.

Answer: 15

PRACTICE

Find the missing value in each pair of equivalent ratios.

1. $3:4=6:\square$ _____

2. $2:7=\square:21$ _____

3. $5:2=35:\square$ _____

4. $1:6=4:\square$ _____

5. $8:3=\square:9$ _____

6. $4:5=12:\square$ _____

7. $9:2=\square:8$ _____

8. $6:7=\square:35$ _____

9. $3:10=9:\square$ _____

10. $7:4=28:\square$ _____

11. $2:9=\square:45$ _____

12. $5:8=25:\square$ _____

13. $10:3=\square:12$ _____

14. $4:11=16:\square$ _____

15. $6:5=\square:25$ _____

16. $12:7=\square:21$ _____

17. $8:9=32:\square$ _____

18. $15:4=\square:16$ _____

19. $20:6=10:\square$ _____

20. $18:24=3:\square$ _____

♦ Word Problems

21. A recipe uses 3 cups of flour for every 2 cups of sugar. Using a ratio table, how much sugar is needed for 12 cups of flour?

_____

22. A class trip charges $\$5$ for every 2 students. Using a ratio table, how much does it cost for 14 students? _____

23. A printer uses 4 pages of paper for every 3 minutes. Using a ratio table, how many pages does it use in 15 minutes? _____

24. A fruit stand sells oranges at 6 for $\$2$. Using a ratio table, how many oranges can you buy for $\$10$? _____

Answer Keys

1. 8
2. 6
3. 14
4. 24
5. 24
6. 15
7. 36
8. 30
9. 30
10. 16
11. 10
12. 40
13. 40
14. 44
15. 30
16. 36
17. 36
18. 60
19. 3
20. 4
21. 8 cups of sugar
22. $\$35$
23. 20 pages
24. 30 oranges

Step-by-Step Explanations

1. The first part doubled ($3 \to 6$), so double the second: $4 \to 8$.
2. The second part tripled ($7 \to 21$), so triple the first: $2 \to 6$.
3. The first part is $\times 7$ ($5 \to 35$), so $2 \times 7 = 14$.
4. The first part is $\times 4$ ($1 \to 4$), so $6 \times 4 = 24$.
5. The second part tripled ($3 \to 9$), so triple the first: $8 \to 24$.
6. The first part tripled ($4 \to 12$), so $5 \times 3 = 15$.
7. The second part is $\times 4$ ($2 \to 8$), so $9 \times 4 = 36$.
8. The second part is $\times 5$ ($7 \to 35$), so $6 \times 5 = 30$.
9. The first part tripled ($3 \to 9$), so $10 \times 3 = 30$.
10. The first part is $\times 4$ ($7 \to 28$), so $4 \times 4 = 16$.
11. The second part is $\times 5$ ($9 \to 45$), so $2 \times 5 = 10$.
12. The first part is $\times 5$ ($5 \to 25$), so $8 \times 5 = 40$.
13. The second part is $\times 4$ ($3 \to 12$), so $10 \times 4 = 40$.
14. The first part is $\times 4$ ($4 \to 16$), so $11 \times 4 = 44$.
15. The second part is $\times 5$ ($5 \to 25$), so $6 \times 5 = 30$.
16. The second part tripled ($7 \to 21$), so triple the first: $12 \to 36$.
17. The first part is $\times 4$ ($8 \to 32$), so $9 \times 4 = 36$.
18. The second part is $\times 4$ ($4 \to 16$), so $15 \times 4 = 60$.
19. The first part is halved ($20 \to 10$), so halve the second: $6 \to 3$.
20. The first part is $\div 6$ ($18 \to 3$), so $24 \div 6 = 4$.
21. Flour goes from 3 to 12, which is $\times 4$. So sugar goes from $2 \times 4 = 8$ cups.
22. Students go from 2 to 14, which is $\times 7$. So the cost goes from $\$5 \times 7 = \$35$.
23. Minutes go from 3 to 15, which is $\times 5$. So pages go from $4 \times 5 = 20$.
24. Dollars go from $\$2$ to $\$10$, which is $\times 5$. So oranges go from $6 \times 5 = 30$.

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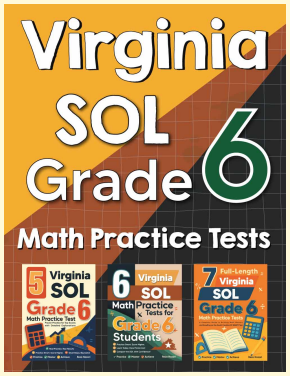

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