

# Tables of Equivalent Ratios

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 24

## Q 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  $2 \times 3$ . 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. $3 : 4 = 6 : \square$   | _____ | 11. $2 : 9 = \square : 45$  | _____ |
| 2. $2 : 7 = \square : 21$  | _____ | 12. $5 : 8 = 25 : \square$  | _____ |
| 3. $5 : 2 = 35 : \square$  | _____ | 13. $10 : 3 = \square : 12$ | _____ |
| 4. $1 : 6 = 4 : \square$   | _____ | 14. $4 : 11 = 16 : \square$ | _____ |
| 5. $8 : 3 = \square : 9$   | _____ | 15. $6 : 5 = \square : 25$  | _____ |
| 6. $4 : 5 = 12 : \square$  | _____ | 16. $12 : 7 = \square : 21$ | _____ |
| 7. $9 : 2 = \square : 8$   | _____ | 17. $8 : 9 = 32 : \square$  | _____ |
| 8. $6 : 7 = \square : 35$  | _____ | 18. $15 : 4 = \square : 16$ | _____ |
| 9. $3 : 10 = 9 : \square$  | _____ | 19. $20 : 6 = 10 : \square$ | _____ |
| 10. $7 : 4 = 28 : \square$ | _____ | 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

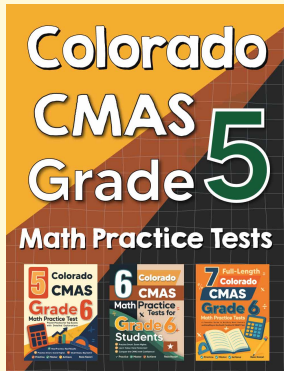
- |                                     |  |
|-------------------------------------|--|
| 1. <input type="text" value="8"/>   | 13. <input type="text" value="40"/>              |
| 2. <input type="text" value="6"/>   | 14. <input type="text" value="44"/>              |
| 3. <input type="text" value="14"/>  | 15. <input type="text" value="30"/>              |
| 4. <input type="text" value="24"/>  | 16. <input type="text" value="36"/>              |
| 5. <input type="text" value="24"/>  | 17. <input type="text" value="36"/>              |
| 6. <input type="text" value="15"/>  | 18. <input type="text" value="60"/>              |
| 7. <input type="text" value="36"/>  | 19. <input type="text" value="3"/>               |
| 8. <input type="text" value="30"/>  | 20. <input type="text" value="4"/>               |
| 9. <input type="text" value="30"/>  | 21. <input type="text" value="8 cups of sugar"/> |
| 10. <input type="text" value="16"/> | 22. <input type="text" value="\$35"/>            |
| 11. <input type="text" value="10"/> | 23. <input type="text" value="20 pages"/>        |
| 12. <input type="text" value="40"/> | 24. <input type="text" value="30 oranges"/>      |

### Step-by-Step Explanations

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



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