

# Multiplying Two Two-Digit Numbers

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 24

## Q Quick Review

To multiply two two-digit numbers, break the bottom number into its **ones** and **tens**. First multiply the top number by the ones digit. Then multiply the top number by the tens digit — and because that digit really means tens, write its product one place to the left (or put a 0 in the ones spot). Finally, **add** the two partial products together. For example,  $42 \times 18$  is  $(42 \times 8) + (42 \times 10)$ . Estimating with rounded numbers helps you check your work.

◇ **Example:** Find  $42 \times 18$ .

⇒ Split 18 into 8 ones and 1 ten. First multiply by the ones:  $42 \times 8 = 336$ . Next multiply by the tens:  $42 \times 1 = 42$ , but that 1 is really 10, so the partial product is 420. Now add the two partial products:  $336 + 420 = 756$ . Check by estimating:  $40 \times 20 = 800$ , which is close to 756 — great!

**Answer:** 756

## PRACTICE

Multiply. Find each partial product, then add them.

- |                    |       |                    |       |
|--------------------|-------|--------------------|-------|
| 1. $12 \times 14$  | _____ | 11. $28 \times 45$ | _____ |
| 2. $23 \times 15$  | _____ | 12. $37 \times 52$ | _____ |
| 3. $31 \times 22$  | _____ | 13. $48 \times 26$ | _____ |
| 4. $42 \times 18$  | _____ | 14. $56 \times 38$ | _____ |
| 5. $25 \times 36$  | _____ | 15. $64 \times 29$ | _____ |
| 6. $34 \times 27$  | _____ | 16. $73 \times 41$ | _____ |
| 7. $46 \times 23$  | _____ | 17. $85 \times 17$ | _____ |
| 8. $53 \times 19$  | _____ | 18. $92 \times 34$ | _____ |
| 9. $62 \times 24$  | _____ | 19. $58 \times 47$ | _____ |
| 10. $71 \times 33$ | _____ | 20. $67 \times 53$ | _____ |

## ◆ Word Problems

21. A classroom has 24 rows of chairs with 16 chairs in each row. How many chairs are in the classroom? \_\_\_\_\_
22. A garden has 35 rows of tomato plants with 28 plants in each row. How many tomato plants are there? \_\_\_\_\_
23. A store sells packs of stickers. Each pack has 48 stickers, and the store sells 52 packs. How many stickers is that? \_\_\_\_\_
24. A school collects 75 cans of food from each of its 36 classrooms. How many cans does the school collect in all? \_\_\_\_\_



## Answer Keys

- |           |                    |
|-----------|--------------------|
| 1. 168    | 13. 1,248          |
| 2. 345    | 14. 2,128          |
| 3. 682    | 15. 1,856          |
| 4. 756    | 16. 2,993          |
| 5. 900    | 17. 1,445          |
| 6. 918    | 18. 3,128          |
| 7. 1,058  | 19. 2,726          |
| 8. 1,007  | 20. 3,551          |
| 9. 1,488  | 21. 384 chairs     |
| 10. 2,343 | 22. 980 plants     |
| 11. 1,260 | 23. 2,496 stickers |
| 12. 1,924 | 24. 2,700 cans     |

### Step-by-Step Explanations

- |   |   |
|---|---|
| 1. $12 \times 4 = 48$ and $12 \times 10 = 120$ . Add: $48 + 120 = 168$ .          | 13. $48 \times 6 = 288$ and $48 \times 20 = 960$ . Add: $288 + 960 = 1,248$ .     |
| 2. $23 \times 5 = 115$ and $23 \times 10 = 230$ . Add: $115 + 230 = 345$ .        | 14. $56 \times 8 = 448$ and $56 \times 30 = 1,680$ . Add: $448 + 1,680 = 2,128$ . |
| 3. $31 \times 2 = 62$ and $31 \times 20 = 620$ . Add: $62 + 620 = 682$ .          | 15. $64 \times 9 = 576$ and $64 \times 20 = 1,280$ . Add: $576 + 1,280 = 1,856$ . |
| 4. $42 \times 8 = 336$ and $42 \times 10 = 420$ . Add: $336 + 420 = 756$ .        | 16. $73 \times 1 = 73$ and $73 \times 40 = 2,920$ . Add: $73 + 2,920 = 2,993$ .   |
| 5. $25 \times 6 = 150$ and $25 \times 30 = 750$ . Add: $150 + 750 = 900$ .        | 17. $85 \times 7 = 595$ and $85 \times 10 = 850$ . Add: $595 + 850 = 1,445$ .     |
| 6. $34 \times 7 = 238$ and $34 \times 20 = 680$ . Add: $238 + 680 = 918$ .        | 18. $92 \times 4 = 368$ and $92 \times 30 = 2,760$ . Add: $368 + 2,760 = 3,128$ . |
| 7. $46 \times 3 = 138$ and $46 \times 20 = 920$ . Add: $138 + 920 = 1,058$ .      | 19. $58 \times 7 = 406$ and $58 \times 40 = 2,320$ . Add: $406 + 2,320 = 2,726$ . |
| 8. $53 \times 9 = 477$ and $53 \times 10 = 530$ . Add: $477 + 530 = 1,007$ .      | 20. $67 \times 3 = 201$ and $67 \times 50 = 3,350$ . Add: $201 + 3,350 = 3,551$ . |
| 9. $62 \times 4 = 248$ and $62 \times 20 = 1,240$ . Add: $248 + 1,240 = 1,488$ .  | 21. Multiply rows by chairs per row: $24 \times 16 = 384$ chairs.                 |
| 10. $71 \times 3 = 213$ and $71 \times 30 = 2,130$ . Add: $213 + 2,130 = 2,343$ . | 22. Multiply rows by plants per row: $35 \times 28 = 980$ plants.                 |
| 11. $28 \times 5 = 140$ and $28 \times 40 = 1,120$ . Add: $140 + 1,120 = 1,260$ . | 23. Multiply stickers per pack by packs sold: $48 \times 52 = 2,496$ stickers.    |
| 12. $37 \times 2 = 74$ and $37 \times 50 = 1,850$ . Add: $74 + 1,850 = 1,924$ .   | 24. Multiply cans per classroom by classrooms: $75 \times 36 = 2,700$ cans.       |



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