

Grade 4 - Multiplying Multi-Digit Numbers - Answer Key

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Check your work with this answer key. Each solution lists every partial product, shows the sum, and gives the final product in bold. Area models are completed so you can compare them with your own.

Grade 4 · Common Core State Standards: **4.NBT.B.5**

Exercise 1 - Multiples of 10

3 tens times 4 is 12 tens, which is 120.

120

Exercise 2 - Tens times tens

Basic fact: $7 \times 5 = 35$. Two zeros are attached.

3,500

Exercise 3 - Hundreds

Basic fact: $6 \times 4 = 24$. Two zeros are attached.

2,400

Exercise 4 - Thousands

Basic fact: $8 \times 5 = 40$. Three zeros are attached to 40, giving 40,000.

40,000

Exercise 5 - Area model: 47×6

	40	7
6	240	42

$$240 + 42 = 282.$$

$$40 \times 6 = 240 \text{ and } 7 \times 6 = 42.$$

$$240 + 42 = 282$$

282

Exercise 6 - Partial products: 58×7

$$50 \times 7 = 350 \text{ and } 8 \times 7 = 56.$$

$$350 + 56 = 406$$

406

Exercise 7 - Three-digit number

$$300 \times 4 = 1,200, 20 \times 4 = 80, 6 \times 4 = 24.$$

$$1,200 + 80 + 24 = 1,304$$

1,304

Exercise 8 - Four-digit number

	1,000	200	40	9
3	3,000	600	120	27

$$3,000 + 600 + 120 + 27 = 3,747.$$

$$3,000 + 600 + 120 + 27 = 3,747$$

3,747

Exercise 9 - Zero in the number

$$4,000 \times 6 = 24,000, 800 \times 6 = 4,800, 0 \times 6 = 0, 5 \times 6 = 30.$$

$$24,000 + 4,800 + 0 + 30 = 28,830$$

28,830

Exercise 10 - Two-digit by two-digit

$$23 \times 10 = 230 \text{ and } 23 \times 4 = 92.$$

$$230 + 92 = 322$$

322

Exercise 11 - Area model: 36×24

	30	6
20	600	120
4	120	24

$$600 + 120 + 120 + 24 = 864.$$

$$600 + 120 + 120 + 24 = 864$$

864

Exercise 12 - Area model: 45×62

	60	2
40	2,400	80
5	300	10

$$2,400 + 80 + 300 + 10 = 2,790.$$

$$60 \times 40 = 2,400, 2 \times 40 = 80, 60 \times 5 = 300, 2 \times 5 = 10.$$

$$2,400 + 80 + 300 + 10 = 2,790$$

$$2,790$$

Exercise 13 - Bigger partial products

$$78 \times 50 = 3,900 \text{ and } 78 \times 3 = 234.$$

$$3,900 + 234 = 4,134$$

$$4,134$$

Exercise 14 - Use a property

Group the factors that make a friendly number: $(4 \times 25) \times 17$.

$$4 \times 25 = 100, \text{ and } 100 \times 17 = 1,700.$$

$$1,700$$

Exercise 15 - Peach baskets

$$28 \times 45 : 20 \times 45 = 900 \text{ and } 8 \times 45 = 360.$$

$$900 + 360 = 1,260$$

$$1,260 \text{ peaches}$$

Exercise 16 - Stadium seats

$$8 \text{ times } 1,000 = 8,000, 8 \text{ times } 200 = 1,600, 8 \text{ times } 70 = 560, 8 \text{ times } 5 = 40.$$

$$8,000 + 1,600 + 560 + 40 = 10,200$$

$$10,200 \text{ seats}$$

Exercise 17 - Road trip miles

$$300 \times 6 = 1,800, 40 \times 6 = 240, 7 \times 6 = 42.$$

$$1,800 + 240 + 42 = 2,082$$

2,082 **miles**

Exercise 18 - Baseball card packs

$$47 \times 12: 47 \times 10 = 470 \text{ and } 47 \times 2 = 94.$$

$$470 + 94 = 564$$

564 cards

Exercise 19 - Theater seats

$$\text{Total seats: } 24 \times 38: 20 \times 38 = 760 \text{ and } 4 \times 38 = 152, \text{ so } 760 + 152 = 912.$$

$$\text{Left: } 912 - 150 = 762.$$

762 seats

Exercise 20 - Find the mistake

Liam forgot to attach the two zeros from 30 and 50. $3 \times 5 = 15$ is 15 hundreds, not 15.

Correct: $30 \times 50 = 1,500$.

1,500