



How to Administer the Quick Check:

- The Quick Check consists of two parts: an Instruction portion which includes solutions and a Student portion with problems for each concept.
- **Your student need only complete the Quick Check problems for the concepts for which you responded **Unsure**.**
- Have your student complete the Quick Check items independently. You may attempt to clarify the wording of a question, but you should not provide hints about how to solve a problem.
- Return to the Question Block when you have checked your student's work.
- *You should now be able to answer **Yes** or **No** for each question.*
- Click **Submit** to go to the next screen.

4.1

Does my student understand multiplication in terms of repeated addition and in geometric terms?

4.1a

Write $4 + 4 + 4$ as a multiplication problem.

4×3 or 3×4

4.1b

Write the multiplication fact that the picture represents.



5×3 or 3×5



4.2

Can my student immediately give the correct answers to all single-digit multiplication problems?

4.2a

Ask your student to give the answer to the following problem from memory: $6 \times 7 =$

42

Note: If your student cannot recall multiplication facts from memory quickly and accurately, go back to Gamma and move through quickly to ensure mastery of basic facts.

4.2b

Ask your student to give the answer to the following problem from memory: $8 \times 3 =$

24

Note: If your student cannot recall multiplication facts from memory quickly and accurately, go back to Gamma and move through quickly to ensure mastery of basic facts.



4.3

Can my student explain why we break multiple-digit multiplication problems into smaller parts (partial products)?

4.3a

Explain why 14×12 is the same as $(14 \times 10) + (14 \times 2)$.

This is possible because you multiply each digit of one factor by each of the digits in the other factor, taking into account the place value of each digit. Then you can add all the partial products to find the total product.

Note: Your student may not use all of the same terminology shown here, but should be able to describe in their own words why the problems are the same.

4.3b

Explain why $(50 \times 6) + (4 \times 6)$ is the same as 54×6 .

This is possible because you multiply each digit of one factor by each of the digits in the other factor, taking into account the place value of each digit. Then you can add all the partial products to find the total product.

Note: Your student may not use all of the same terminology shown here, but should be able to describe in their own words why the problems are the same.



4.4

Does my student understand the role of place value in multiple-digit multiplication problems?

4.4a

Multiply 12×13 .



Explain why you placed the 1 in the hundreds place rather than the tens place when working out the answer.

$$\begin{array}{r} 12 \\ \times 13 \\ \hline 36 \\ + 12 \\ \hline 156 \end{array}$$

In the second row of the answer you need to multiply by the next number to the left of the 2. This is the 1 in 12. Because the 1 is in the tens place you are actually multiplying 10×10 which is 100. In order to keep each digit in its correct place (or keep the place values aligned) the digit 1 goes in the hundreds place when finding the answer.

4.4b

Multiply 15×14 .



Explain why you placed the 5 in the tens place rather than the units (ones) place when working out the answer.

$$\begin{array}{r} 15 \\ \times 14 \\ \hline 60 \\ + 15 \\ \hline 210 \end{array}$$

In the second row of the answer you need to multiply by the next number to the left of the 4. This is the 1 in 14. Because the 1 is in the tens place you are actually multiplying 10×5 which is 50. In order to keep each digit in its correct place (or keep the place values aligned) the digit 5 goes in the tens place when finding the answer.



4.5

Can my student confidently solve words problems involving multiplication?

4.5a

**Mike works 4 days a week. He works 8 hours a day.
Find the number of hours Mike works in one week.**

32 hours

$$4 \times 8 = 32$$

4.5b

**The parking lot was full.
If there were 15 rows with 35 cars in each, how many cars were in the parking lot?**

525 cars

$$15 \times 35 = 525 \text{ or } 35 \times 15 = 525$$



How to complete the Quick Check:

- You only need to complete the problems your parent or instructor assigns.

4.1

4.1a

Write $4 + 4 + 4$ as a multiplication problem.

4.1b

Write the multiplication fact that the picture represents.



4.2

4.2a**Ask your student to give the answer to the following problem from memory: $6 \times 7 =$** **4.2b****Ask your student to give the answer to the following problem from memory: $8 \times 3 =$**

4.3

4.3a**Explain why 14×12 is the same as $(14 \times 10) + (14 \times 2)$.****4.3b****Explain why $(50 \times 6) + (4 \times 6)$ is the same as 54×6 .**



4.4

4.4a

Multiply 12×13 .



Explain why you placed the 1 in the hundreds place rather than the tens place when working out the answer.

4.4b

Multiply 15×14 .



Explain why you placed the 5 in the tens place rather than the units (ones) place when working out the answer.



4.5

4.5a

**Mike works 4 days a week. He works 8 hours a day.
Find the number of hours Mike works in one week.**

4.5b

**The parking lot was full.
If there were 15 rows with 35 cars in each, how many cars were in the parking lot?**