

Math 3

1-7a Model Division as an Unknown Factor

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| **Name:** |  | **Date:** |  |

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| **Common Core Standards** | [CCSS.MATH.CONTENT.3.OA.A.2](http://www.corestandards.org/Math/Content/3/OA/A/2/)  Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*  [CCSS.MATH.CONTENT.3.OA.A.3](http://www.corestandards.org/Math/Content/3/OA/A/3/)  Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.  [CCSS.MATH.CONTENT.3.OA.A.4](http://www.corestandards.org/Math/Content/3/OA/A/4/)  Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = \_ ÷ 3, 6 × 6 = ?.*  [CCSS.MATH.CONTENT.3.OA.B.6](http://www.corestandards.org/Math/Content/3/OA/B/6/)  Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.* |

1-7a Model Division as an Unknown Factor

**Unknown Factor**

Identify:

**18**

**12**

**15**

**9**

**2**

**8**

**6**

What are the numbers that have 2 as a factor?

Answer: 2, 6, 8, 12, 15

What are the numbers that have 3 as a factor?

Answer: 6, 9, 12, 15, 18

**Unknown Factor**

Situation:

Penelope gathered 12 roses. She placed them in an array wherein each row has 3 roses each.





Complete he equation below:

**\_ x \_ = 12**

How rows are there?

Part A: Complete the division equation based on the following arrays.

÷ = 3

÷ = 2

÷ = 6

Part B: Draw a tape diagram to represent the equation. Identify the unknown factor.

1. 3 x \_\_ = 12

2. 2 x \_\_ = 14

3. 9 x \_\_ = 18

Part C: What’s the Factor?

Encircle the number that is a factor of the following numbers.

1.

**16**

**2**

**3**

2.

**18**

**4**

**3**

3.

**14**

**7**

**6**

4.

**6**

**3**

**4**

5.

**27**

**2**

**3**

6.

**21**

**2**

**3**

7.

**15**

**5**

**2**

**24**

**5**

**3**

8.

**10**

**3**

**2**

9.

**8**

**2**

**3**

10.

|  |  |  |  |
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|  | **ANSWER KEY** | | |
|  | **Situation 1** | **3 x 4**  **4 rows** | |
|  | **Part A:** | **1. 15 ÷ 5**  **2. 12 ÷ 6**  **3. 18 ÷ 3** | |
|  | **Part B:** |  | |
|  | **1.**  **4** |  | |
|  | **2.**  **7** |  | |
|  | **3.**  **2** |  | |
|  | **Part C:** | |  | |
|  | **1.** | | **2** | |
|  | **2.** | | **3** | |
|  | **3.** | | **7** | |
|  | **4.** | | **3** | |
|  | **5.** | | **3** | |
|  | **6.** | | **3** | |
|  | **7.** | | **5** | |
|  | **8.** | | **3** | |
|  | **9.** | | **2** | |
|  | **10.** | | **2** | |