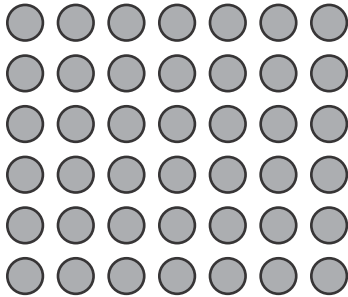


Name \_\_\_\_\_

1. Marilyn arranged her stickers in an array. Which two expressions can be used to find the total number of stickers? **1 point**



- (A)  $3 \times 7$  and  $4 \times 7$   
 (B)  $6 \times 7$  and  $6 \times 1$   
 (C)  $4 \times 7$  and  $2 \times 7$   
 (D)  $4 \times 4$  and  $2 \times 3$

2. Choose Yes or No to tell if the Commutative Property of Multiplication is being used. **1 point**

- 2a.  $4 \times 8 = 4 \times (4 + 4)$      Yes     No  
 2b.  $4 \times 6 = 6 \times 4$      Yes     No  
 2c.  $(2 \times 3) \times 4 = (3 \times 2) \times 4$      Yes     No  
 2d.  $(2 \times 3) \times 4 = 4 \times (2 \times 3)$      Yes     No

3. Lucky makes the generalization that an 8s fact can be broken into two 4s facts. Write an equation to test his generalization. **1 point**

$$8 \times 6 = (4 \times 6) + (4 \times 6) = 24 + 24 = 48$$

4. Jamal broke up a large array into a  $3 \times 6$  array and a  $4 \times 6$  array. What was the large array? Show your work. **2 points**

$$\begin{aligned} \text{It was a } 7 \times 6 \text{ array.} \\ (3 \times 6) + (4 \times 6) \\ = 7 \times 6 \end{aligned}$$

5. Which facts can you use to find  $6 \times 8$ ? Select all that apply. **1 point**

- $6 \times 1$  and  $6 \times 7$   
  $3 \times 1$  and  $3 \times 7$   
  $6 \times 6$  and  $6 \times 7$   
  $2 \times 8$  and  $4 \times 8$   
  $6 \times 4$  and  $6 \times 4$

6. A bookstore uses 6 books in each display. There are 2 displays on each of the bookstore's 4 walls. How many books are used in the displays? Show your work. **2 points**

$$\begin{aligned} \text{48 books;} \\ 6 \times 2 \times 4 = 6 \times (2 \times 4); \\ 6 \times 8 = 48 \end{aligned}$$

7. Find the number that makes the equation correct. Explain your reasoning.

$$(3 \times 8) + (4 \times 8) = \underline{56} \quad \text{2 points}$$

$$\begin{aligned} \text{Sample answer:} \\ 3 \times 8 = 24; 4 \times 8 = 32; \\ 24 + 32 = 56 \end{aligned}$$

8. Alma has 6 bags of beads. There are 8 beads in each bag. How many beads does Alma have? Show your work.

**48** beads

**2 points**

**Sample answer:**

$$6 \times 8 = 48$$

9. Larry organizes his baseball cards into a  $3 \times 7$  array. Akio organizes his baseball cards into a  $7 \times 8$  array. How can Larry and Akio break apart their arrays? Write each pair of facts in the correct space.

**2 points**

$3 \times 7$	$7 \times 8$
$3 \times 3$ and $3 \times 4$	$1 \times 8$ and $6 \times 8$
$1 \times 7$ and $2 \times 7$	$3 \times 8$ and $4 \times 8$
	$7 \times 4$ and $7 \times 4$

$3 \times 3$  and  $3 \times 4$

$1 \times 8$  and  $6 \times 8$

$3 \times 8$  and  $4 \times 8$

$1 \times 7$  and  $2 \times 7$

$7 \times 4$  and  $7 \times 4$

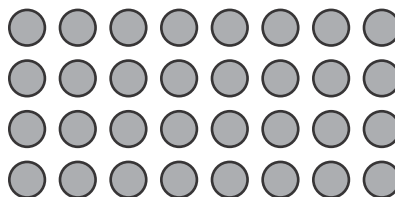
10. A bakery has bagels displayed on 4 shelves. Each shelf has 2 baskets. Each basket has 8 bagels. How many bagels are displayed in all? Write an expression that represents the amount.

**64** bagels

**Sample answer:**

$$4 \times 2 \times 8$$

11. Chase arranged his counters into this array.



- A. What two facts could Chase use to write an equation for the array? **1 point**

**Sample answer:**

$$1 \times 8 \text{ and } 3 \times 8$$

- B. If Chase adds one more row of 8 counters to his array, can he still use the facts you wrote in Part A? Explain why or why not. **2 points**

**No; Sample answer: Chase now has a  $5 \times 8$  array. The sum of the products in Part A does not equal  $5 \times 8$ .**

12. Jerome bought 2 adult tickets and 7 student tickets for a play. How much did he spend? Show any equations used. **2 points**

**Ticket Prices**

Student \$4 each ticket

Adult \$6 each ticket

$$\begin{aligned} &\$40; 2 \times \$6 = \$12; \\ &7 \times \$4 = \$28; \\ &\$12 + \$28 = \$40 \end{aligned}$$