

# Associative Law of Multiplication (H)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Re-write each expression with different parentheses to change the order of operations.

Example:  $(8 \times 5) \times 12 = 8 \times (5 \times 12)$

1.  $(10 \times 3) \times 5 =$

2.  $18 \times (4 \times 13) =$

3.  $(30 \times 12) \times 10 =$

4.  $(14 \times 47) \times 18 =$

5.  $69 \times (63 \times 5) =$

6.  $12 \times (7 \times (6 \times 3)) =$

7.  $(12 \times 20) \times (6 \times 15) =$

8.  $(4 \times 37) \times (32 \times 22) =$

9.  $(12 \times (89 \times 48)) \times 51 =$

10.  $(8 \times (32 \times 85)) \times 50 =$

Are the expressions in each question equal? Check a few to confirm.

# Associative Law of Multiplication (H) Answers

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Re-write each expression with different parentheses to change the order of operations.

Example:  $(8 \times 5) \times 12 = 8 \times (5 \times 12)$

1.  $(10 \times 3) \times 5 = 10 \times (3 \times 5)$

2.  $18 \times (4 \times 13) = (18 \times 4) \times 13$

3.  $(30 \times 12) \times 10 = 30 \times (12 \times 10)$

4.  $(14 \times 47) \times 18 = 14 \times (47 \times 18)$

5.  $69 \times (63 \times 5) = (69 \times 63) \times 5$

6.  $12 \times (7 \times (6 \times 3)) = ((12 \times 7) \times 6) \times 3$   
 $= (12 \times 7) \times (6 \times 3) = (12 \times (7 \times 6)) \times 3 = 12 \times ((7 \times 6) \times 3)$

7.  $(12 \times 20) \times (6 \times 15) = ((12 \times 20) \times 6) \times 15$   
 $= (12 \times (20 \times 6)) \times 15 = 12 \times ((20 \times 6) \times 15) = 12 \times (20 \times (6 \times 15))$

8.  $(4 \times 37) \times (32 \times 22) = ((4 \times 37) \times 32) \times 22$   
 $= (4 \times (37 \times 32)) \times 22 = 4 \times ((37 \times 32) \times 22) = 4 \times (37 \times (32 \times 22))$

9.  $(12 \times (89 \times 48)) \times 51 = ((12 \times 89) \times 48) \times 51$   
 $= (12 \times 89) \times (48 \times 51) = 12 \times ((89 \times 48) \times 51) = 12 \times (89 \times (48 \times 51))$

10.  $(8 \times (32 \times 85)) \times 50 = ((8 \times 32) \times 85) \times 50$   
 $= (8 \times 32) \times (85 \times 50) = 8 \times ((32 \times 85) \times 50) = 8 \times (32 \times (85 \times 50))$

Are the expressions in each question equal? Check a few to confirm.