

# Associative Law of Multiplication (F)

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.  $(6 \times 1) \times 10 =$

2.  $(4 \times 12) \times 16 =$

3.  $14 \times (6 \times 24) =$

4.  $43 \times (16 \times 31) =$

5.  $59 \times (9 \times 89) =$

6.  $8 \times ((2 \times 4) \times 12) =$

7.  $(17 \times (22 \times 8)) \times 5 =$

8.  $(13 \times (2 \times 35)) \times 47 =$

9.  $((60 \times 18) \times 96) \times 27 =$

10.  $(9 \times 46) \times (96 \times 53) =$

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

# Associative Law of Multiplication (F) 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.  $(6 \times 1) \times 10 = 6 \times (1 \times 10)$

2.  $(4 \times 12) \times 16 = 4 \times (12 \times 16)$

3.  $14 \times (6 \times 24) = (14 \times 6) \times 24$

4.  $43 \times (16 \times 31) = (43 \times 16) \times 31$

5.  $59 \times (9 \times 89) = (59 \times 9) \times 89$

6.  $8 \times ((2 \times 4) \times 12) = ((8 \times 2) \times 4) \times 12$   
 $= (8 \times 2) \times (4 \times 12) = (8 \times (2 \times 4)) \times 12 = 8 \times (2 \times (4 \times 12))$

7.  $(17 \times (22 \times 8)) \times 5 = ((17 \times 22) \times 8) \times 5$   
 $= (17 \times 22) \times (8 \times 5) = 17 \times ((22 \times 8) \times 5) = 17 \times (22 \times (8 \times 5))$

8.  $(13 \times (2 \times 35)) \times 47 = ((13 \times 2) \times 35) \times 47$   
 $= (13 \times 2) \times (35 \times 47) = 13 \times ((2 \times 35) \times 47) = 13 \times (2 \times (35 \times 47))$

9.  $((60 \times 18) \times 96) \times 27 = (60 \times 18) \times (96 \times 27)$   
 $= (60 \times (18 \times 96)) \times 27 = 60 \times ((18 \times 96) \times 27) = 60 \times (18 \times (96 \times 27))$

10.  $(9 \times 46) \times (96 \times 53) = ((9 \times 46) \times 96) \times 53$   
 $= (9 \times (46 \times 96)) \times 53 = 9 \times ((46 \times 96) \times 53) = 9 \times (46 \times (96 \times 53))$

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