

Splitting Numbers



ACTIVITY ONE

The number 16 can be split into pairs of two numbers in many ways. For example, three pairs of addends for 16 are:

$$4 + 12$$



$$7 + 9$$



$$6 + 10$$



Each pair of numbers can be multiplied. For example:

$$4 \times 12 = 48$$



$$7 \times 9 = 63$$



$$6 \times 10 = 60$$



1.
 - a. List all the pairs of whole numbers that add up to 16.
 - b. Which of these pairs gives the greatest product?
2. For each number below, find the pair of whole numbers that has the greatest product.

a. 10	b. 12
c. 18	d. 13

Addend:

a number that is added to one or more numbers to form a sum

Product:

the result of multiplying two or more numbers

ACTIVITY TWO

Numbers can also be split into three addends. Here are some sets of three addends for 9:

$4 + 2 + 3$



$1 + 1 + 7$



$5 + 2 + 2$



These sets of three numbers can also be multiplied:

$4 \times 2 \times 3 = 24$



$1 \times 1 \times 7 = 7$



$5 \times 2 \times 2 = 20$



- Which set of three addends for 9 has the greatest product?
(Find all the possible sets first.)
- For each number below, find the set of three whole numbers that has the greatest product.

a. 12	b. 15
c. 18	d. 20
- Is there a pattern in the sets of two and three numbers that have the greatest product?
Explain your answer.