



Resource Overview

Quantile® Measure: 560Q

Skill or Concept: Use the commutative and associative properties to simplify numerical expressions. (QT-N-161)
Use the distributive property to simplify numerical expressions. (QT-N-578)

Excerpted from:



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NAME _____

DATE _____

Set A8 ★ Independent Worksheet 1



INDEPENDENT WORKSHEET

Properties Make It Easier

Here are two properties that make it easier to do mental math.

Commutative Property Changing the order of two numbers or numerical expressions when you add or multiply does not change the answer.

$$5 + 3 = 3 + 5 \quad \text{and} \quad 3 \times 4 = 4 \times 3$$

Associative Property Changing the way you group three numbers or numerical expressions when you add or multiply does not change the answer.

$$(2 \times 3) \times 4 = 2 \times (3 \times 4)$$

2 For each problem below:

- Use one or both of the above properties to rewrite the equation in a form that's easier to solve.
- Solve it and write the answer.
- Circle all the properties you used to rewrite the equation (C for commutative, A for Associative, or C and A if you used both properties.)

Problem	Rewrite	Answer	Property
ex. $(70 + 469) + 30$	$(70 + 30) + 469$	569	C A
a $(5 \times 68) \times 2$			C A
b $(24 \times 25) \times 4$			C A
c $(32 \times 50) \times 2$			C A
d $(40 + 579) + 60$			C A
e $50 \times (20 \times 16)$			C A

(Continued on back.)

Independent Worksheet 1 Properties Make It Easier (cont.)

Distributive Property When you multiply a number you can break that number apart. Multiply each part separately, and then add the products. You will still get the same answer.

2 Use the distributive property to make the problems below easier. Fill in the missing steps to get the answers.

example ↓ 6×13
$6 \times (10 + 3)$ ↓
$(6 \times 10) + (6 \times 3)$ ↓
$60 + 18 = 78$

a 7×23 ↓
$7 \times (20 + 3)$ ↓
↓
↓

b 8×24 ↓
$8 \times (20 + 4)$ ↓
↓
↓

c 5×45 ↓
↓
$(5 \times 40) + (5 \times 5)$ ↓
↓

d 3×28 ↓
↓
$(3 \times 20) + (3 \times 8)$ ↓
↓

e 5×63 ↓
↓
↓
↓

f 6×35 ↓
↓
↓
↓

g 9×24 ↓
$9 \times (20 + 4)$ ↓
↓
↓

h 7×39 ↓
↓
↓
↓