Expressions and the distributive law: 10 practice questions

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Name: _____ Date: _____

Attempt all questions and show your working. Suggested time: 15 to 20 minutes.

Section A: Consolidating (Questions 1-4)

Question 1

Use the commutative law to calculate 25 + 38 + 75 mentally. Show the order you used.

Question 2

Calculate 4 × 17 × 25 by changing the order of the numbers.

Question 3

Write an algebraic expression for "5 more than x".

Question 4

Simplify 3a + 5a.

Section B: Standard (Questions 5-10)

Question 5

Use the distributive law to calculate 7 × 98. Show your working.

Question 6

Expand 4(x + 6).

Question 7

Expand 5(2a - 3).

Question 8

Write an algebraic expression for each of the following.

(a) 3 times n, decreased by 4

(b) half of y

(c) the sum of p and q, multiplied by 6

Question 9

Name the law (commutative, associative or distributive) shown by each statement.

(a) $8 + 13 = 13 + 8$

(b) $(6 \times 5) \times 2 = 6 \times (5 \times 2)$

(c) $3 \times (10 + 4) = 3 \times 10 + 3 \times 4$

Question 10

Use an example with numbers to show that subtraction is not commutative.

Expressions and the distributive law: answers

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Question 1

Answer: 138 (25 + 75 + 38 = 100 + 38)

Question 2

Answer: 1700 (4 × 25 × 17 = 100 × 17)

Question 3

Answer: x + 5

Question 4

Answer: 8a

Question 5

Answer: 686 (7 × 100 - 7 × 2 = 700 - 14)

Question 6

Answer: 4x + 24

Question 7

Answer: 10a - 15

Question 8

Answer: (a) 3n - 4 (b) y/2 (also accept ½y, 0.5y or y ÷ 2) (c) 6(p + q)

Question 9

Answer: (a) commutative (b) associative (c) distributive

Question 10

Answer: Any correct example, such as 9 - 4 = 5 but 4 - 9 = -5, so changing the order changes the answer.