

A.N.1: Identifying Properties: Identify and apply the properties of real numbers (closure, commutative, associative, distributive, identity, inverse)

- 1 Which property is illustrated by the equation $ax + ay = a(x + y)$?
 - 1) associative
 - 2) commutative
 - 3) distributive
 - 4) identity
- 2 The statement $2 + 0 = 2$ is an example of the use of which property of real numbers?
 - 1) associative
 - 2) additive identity
 - 3) additive inverse
 - 4) distributive
- 3 Tori computes the value of $8 \cdot 95$ in her head by thinking $8(100 - 5) = 8 \times 100 - 8 \times 5$. Which number property is she using?
 - 1) associative
 - 2) distributive
 - 3) commutative
 - 4) closure
- 4 Which property of real numbers is illustrated by the equation $-\sqrt{3} + \sqrt{3} = 0$?
 - 1) additive identity
 - 2) commutative property of addition
 - 3) associative property of addition
 - 4) additive inverse
- 5 Which property of real numbers is illustrated by the equation $52 + (27 + 36) = (52 + 27) + 36$?
 - 1) commutative property
 - 2) associative property
 - 3) distributive property
 - 4) identity property of addition
- 6 The equation $*(\Delta + \heartsuit) = *\Delta + *\heartsuit$ is an example of the
 - 1) associative law
 - 2) commutative law
 - 3) distributive law
 - 4) transitive law
- 7 While solving the equation $4(x + 2) = 28$, Becca wrote $4x + 8 = 28$. Which property did she use?
 - 1) distributive
 - 2) associative
 - 3) commutative
 - 4) identity
- 8 If M and A represent integers, $M + A = A + M$ is an example of which property?
 - 1) commutative
 - 2) associative
 - 3) distributive
 - 4) closure

- 9 Which property is illustrated by the equation

$$\frac{3}{2}x + 0 = \frac{3}{2}x?$$

- 1) commutative property of addition
- 2) distributive property
- 3) additive inverse property
- 4) additive identity property

- 10 Which property is represented by the statement

$$\frac{1}{2}(6a + 4b) = 3a + 2b?$$

- 1) commutative
- 2) distributive
- 3) associative
- 4) identity

- 11 Which property is illustrated by the equation

$$6 + (4 + x) = 6 + (x + 4)?$$

- 1) associative property of addition
- 2) associative property of multiplication
- 3) distributive property
- 4) commutative property of addition

- 12 Which property is illustrated by the equation

$$4x(2x - 1) = 8x^2 - 4x?$$

- 1) associative
- 2) commutative
- 3) distributive
- 4) identity

- 13 A method for solving $5(x - 2) - 2(x - 5) = 9$ is shown below. Identify the property used to obtain each of the two indicated steps.

$$5(x - 2) - 2(x - 5) = 9$$

(1) $5x - 10 - 2x + 10 = 9$ (1) _____

(2) $5x - 2x - 10 + 10 = 9$ (2) _____

$$3x + 0 = 9$$

$$3x = 9$$

$$x = 3$$

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Answer Section

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|----|--------|-----------------|
| 1 | ANS: 3 | REF: fall0705ia |
| 2 | ANS: 2 | REF: 080802ia |
| 3 | ANS: 2 | REF: 060306a |
| 4 | ANS: 4 | REF: 060413a |
| 5 | ANS: 2 | REF: 010924a |
| 6 | ANS: 3 | REF: 080504a |
| 7 | ANS: 1 | REF: 080601a |
| 8 | ANS: 1 | REF: 010720a |
| 9 | ANS: 4 | REF: 060714a |
| 10 | ANS: 2 | REF: 010812a |
| 11 | ANS: 4 | REF: 060827a |
| 12 | ANS: 3 | REF: 080806a |
| 13 | ANS: | |

(1) Distributive; (2) Commutative

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