

Properties of Real Numbers

- 1 What is the additive inverse of the expression $a - b$?
 - 1) $a + b$
 - 2) $a - b$
 - 3) $-a + b$
 - 4) $-a - b$

- 2 Perform the indicated operation: $-6(a - 7)$
State the name of the property used.

- 3 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

- 4 Which equation illustrates the associative property?
 - 1) $x + y + z = x + y + z$
 - 2) $x(y + z) = xy + xz$
 - 3) $x + y + z = z + y + x$
 - 4) $(x + y) + z = x + (y + z)$

- 5 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

- 6 Which equation is an illustration of the additive identity property?
 - 1) $x \cdot 1 = x$
 - 2) $x + 0 = x$
 - 3) $x - x = 0$
 - 4) $x \cdot \frac{1}{x} = 1$

- 7 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

- 8 If $a \neq 0$ and the sum of x and $\frac{1}{a}$ is 0, then
 - 1) $x = a$
 - 2) $x = -a$
 - 3) $x = -\frac{1}{a}$
 - 4) $x = 1 - a$

- 9 Which equation illustrates the distributive property for real numbers?
 - 1) $\frac{1}{3} + \frac{1}{2} = \frac{1}{2} + \frac{1}{3}$
 - 2) $\sqrt{3} + 0 = \sqrt{3}$
 - 3) $(1.3 \times 0.07) \times 0.63 = 1.3 \times (0.07 \times 0.63)$
 - 4) $-3(5 + 7) = (-3)(5) + (-3)(7)$

- 10 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

- 11 The equation $*(\Delta + \heartsuit) = *\Delta + *\heartsuit$ is an example of the
 - 1) associative law
 - 2) commutative law
 - 3) distributive law
 - 4) transitive law

- 12 Which expression must be added to $3x - 7$ to equal 0?
 - 1) 0
 - 2) $3x + 7$
 - 3) $-3x - 7$
 - 4) $-3x + 7$

- 13 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

- 14 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

- 15 Which equation illustrates the multiplicative identity element?
 - 1) $x + 0 = x$
 - 2) $x - x = 0$
 - 3) $x \cdot \frac{1}{x} = 1$
 - 4) $x \cdot 1 = x$

- 16 If M and A represent integers, $M + A = A + M$ is an example of which property?
 - 1) commutative
 - 2) associative
 - 3) distributive
 - 4) closure

- 17 Which property is illustrated by the equation $ax + ay = a(x + y)$?
- 1) associative
 - 2) commutative
 - 3) distributive
 - 4) identity
- 18 What is the additive inverse of $\frac{2}{3}$?
- 1) $-\frac{2}{3}$
 - 2) $\frac{1}{3}$
 - 3) $-\frac{3}{2}$
 - 4) $\frac{3}{2}$
- 19 Which property is represented by the statement $\frac{1}{2}(6a + 4b) = 3a + 2b$?
- 1) commutative
 - 2) distributive
 - 3) associative
 - 4) identity
- 20 Which equation illustrates the associative property of addition?
- 1) $x + y = y + x$
 - 2) $3(x + 2) = 3x + 6$
 - 3) $(3 + x) + y = 3 + (x + y)$
 - 4) $3 + x = 0$
- 21 Which expression is an example of the associative property?
- 1) $(x + y) + z = x + (y + z)$
 - 2) $x + y + z = z + y + x$
 - 3) $x(y + z) = xy + xz$
 - 4) $x \cdot 1 = x$
- 22 Which equation illustrates the distributive property of multiplication over addition?
- 1) $6(3a + 4b) = 18a + 4b$
 - 2) $6(3a + 4b) = 18a + 24b$
 - 3) $6(3a + 4b) = (3a + 4b)6$
 - 4) $6(3a + 4b) = 6(4b + 3a)$
- 23 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

- 24 What is the multiplicative inverse of $\frac{3}{4}$?
- 1) -1
 - 2) $\frac{4}{3}$
 - 3) $-\frac{4}{3}$
 - 4) $-\frac{3}{4}$
- 25 Which equation illustrates the distributive property?
- 1) $5(a + b) = 5a + 5b$
 - 2) $a + b = b + a$
 - 3) $a + (b + c) = (a + b) + c$
 - 4) $a + 0 = a$
- 26 Which equation illustrates the multiplicative inverse property?
- 1) $1 \cdot x = x$
 - 2) $x \cdot \frac{1}{x} = 1$
 - 3) $1 \cdot 0 = 0$
 - 4) $-1 \cdot x = -x$
- 27 Which statement best illustrates the additive identity property?
- 1) $6 + 2 = 2 + 6$
 - 2) $6(2) = 2(6)$
 - 3) $6 + (-6) = 0$
 - 4) $6 + 0 = 6$
- 28 The multiplicative inverse of $-\frac{1}{3}$ is
- 1) $\frac{1}{3}$
 - 2) $-\frac{1}{3}$
 - 3) 3
 - 4) -3
- 29 Which equation illustrates the associative property?
- 1) $a(1) = a$
 - 2) $a + b = b + a$
 - 3) $a(b + c) = (ab) + (ac)$
 - 4) $(a + b) + c = a + (b + c)$
- 30 The additive inverse of $\frac{1}{a}$ is
- 1) $-\frac{1}{a}$
 - 2) $-a$
 - 3) 0
 - 4) a