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Chapter 1 Bringing It All Together #1

(Words & Expressions, Variables and Expressions, Properties)

Vocabulary Check

Define the following vocabulary words:

1) Properties: _____

2) Order of Operations: _____

State whether the statement is *true* or *false*.
If *false*, replace the underlined word or number to make a true sentence.

3) An example of a(n) algebraic expression is $a + 2c + 6$ _____

4) A variable is a letter used to represent a value. _____

5) To find the value of a number expression, you simplify it. _____

6) A variable is a number used to represent a value. _____

7) A numerical expression contains a combination of numbers and operations. _____

8) Mathematicians agreed on an order of operations so that numerical expressions would have only one value. _____

1-1 Words and Expressions (pp. 5-9)

Evaluate each expression. Show your work ☺

9) $24 - 8 + 3^2$

10) $4[(12 - 4) + 2]$

11) $9 + \frac{3(7 - 5)^3}{6(2)}$

12) $15 + 9 \div 3 - 7$

13) $48 \div 6 + 2 \times 5$

14) $\frac{6 \times 4 \div 8}{2 + 1} + \frac{2(9 - 5)}{5 - 3} - \frac{6(5)}{(5)3}$

OVER →

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1-2 Variables and Expressions (pp. 11-16)

Write an algebraic expression for each word phrase.

_____ 15) The quotient of a number h and three

_____ 16) Four less a number s

_____ 17) Twenty-two times the sum of three and some number

_____ 18) Twelve greater than the product of a number k and eight

_____ 19) The remainder when five is subtracted from six times a number p

Evaluate each expression if $a = 4$, $b = 8$, and $c = 11$

20) $5a + b$

21) $c(b - 4)$

22) abc

23) $\frac{3b}{a} + ac$

Evaluate each expression if $x = 6$ and $y = 5$

24) $x - 5 + 2y$

25) $\frac{3x + 4y}{x^2 - 17}$

1-3 Properties (pp. 18-23)

Name the property (or properties) shown by each statement.

_____26) $9 \times 7 = 7 \times 9$

_____27) $13 \times 0 = 0$

_____28) $2b + 0 = 2b$

_____29) $3(6a) = (3 \times 6)a$

_____30) $1 \times 87 = 87$

_____31) $y + (5 + 42) = (y + 42) + 5$

Simplify each expression

32) $3 \times (2 \times m)$

33) $(5 + v) + 7$

FINALLY DONE

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Chapter 1 Answer Key B.I.T #1

(Words & Expressions, Variables and Expressions, Properties)

Vocabulary Check

Define the following vocabulary words:

1) Properties: **Statements that are true for any number**

2) Order of Operations: **Order in which operations are evaluated in an expression**

State whether the statement is *true* or *false*.
If *false*, replace the underlined word or number to make a true sentence.

3) An example of a(n) algebraic expression is $a + 2c + 6$ **true**

4) A variable is a letter used to represent a value. **true**

5) To find the value of a number expression, you simplify it. **false; evaluate**

6) A variable is a number used to represent a value. **false; letter**

7) A numerical expression contains a combination of numbers and operations. **true**

8) Mathematicians agreed on an order of operations so that numerical expressions would have only one value. **true**

1-1 Words and Expressions (pp. 5-9)

Evaluate each expression. Show your work

9) $24 - 8 + 3^2$

$24 - 8 + 9$

$16 + 9$

25

10) $4[(12 - 4) + 2]$

$4[8 + 2]$

$4[10]$

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11) $9 + \frac{3(7-5)^3}{6(2)}$

$9 + \frac{3(2)^3}{6(2)}$

$9 + \frac{3(8)}{6(2)}$

$9 + \frac{24}{12}$

11

12) $15 + 9 \div 3 - 7$

$15 + 3 - 7$

$18 - 7$

11

13) $48 \div 6 + 2 \times 5$

$8 + 2 \times 5$

$8 + 10$

18

14) $\frac{6 \times 4 \div 8}{2+1} + \frac{2(9-5)}{5-3} - \frac{6(5)}{(5)3}$

$\frac{6 \times 4 \div 8}{2+1} + \frac{2(4)}{5-3} - \frac{6(5)}{(5)3}$

$\frac{3}{2+1} + \frac{8}{5-3} - \frac{30}{15}$

$\frac{3}{3} + \frac{8}{2} - \frac{30}{15}$

$1 + 4 - 2$

$5 - 2$

3

1-2 Variables and Expressions (pp. 11-16)

Write an algebraic expression for each word phrase.

$\frac{h}{3}$

15) The quotient of a number h and three

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$4 - s$ 16) Four less a number s

$22(3 + w)$ 17) Twenty-two times the sum of three and some number

$8k + 12$ 18) Twelve greater than the product of a number k and eight

$6p - 5$ 19) The remainder when five is subtracted from six times a number p

Evaluate each expression if $a = 4$, $b = 8$, and $c = 11$

20) $5a + b$

$5(4) + 8$

$20 + 8$

28

21) $c(b - 4)$

$11(8 - 4)$

$11(4)$

44

22) abc

$4 \times 8 \times 11$

32×11

352

23) $\frac{3b}{a} + ac$

$\frac{3(8)}{4} + 4(11)$

$\frac{24}{4} + 44$

$6 + 44 = \mathbf{50}$

Evaluate each expression if $x = 6$ and $y = 5$

24) $x - 5 + 2y$

$6 - 5 + 2(5)$

$6 - 5 + 10$

$1 + 10$

11

25) $\frac{3x + 4y}{x^2 - 17}$

$\frac{3(6) + 4(5)}{6^2 - 17}$

$\frac{3(6) + 4(5)}{36 - 17}$

$\frac{18 + 20}{36 - 17} = \frac{38}{19} = 2$

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1-3 Properties (pp. 18-23)

Name the property (or properties) shown by each statement.

Commutative x (CM) 26) $9 \times 7 = 7 \times 9$ **Multiplicative Property of Zero** 27) $13 \times 0 = 0$

Identity + (IA) 28) $2b + 0 = 2b$ **Associative x (AM)** 29) $3(6a) = (3 \times 6)a$

Identity x (IM) 30) $1 \times 87 = 87$ **Associative + (AA)** 31) $y + (5 + 42) = (y + 42) + 5$
Commutative + (CA)

Simplify each expression

32) $3 \times (2 \times m)$

$3 \times (m \times 2)$

$m \times (3 \times 2)$

$6m$

33) $(5 + v) + 7$

$(5 + 7) + v$

$12 + v$

FINALLY DONE