

Warmup

1.

$$x + 1.3 = 8.54$$

Check

2.

$$m - 2.9 = 14.101$$

Check

3. write as an expression:
four more than a number

(Use n for the variable)

4. write as an expression:
seven less a number

(Use y for the variable)

I. Equations

Equation:

A mathematical statement expressing that two quantities or expressions are equal in value.

Equations:

$$x = 4$$

$$2x + 4 = 6$$

$$4x + 6 = 3x - 9$$

Determine if each is an algebraic expression, numerical expression or equation.

$$5x \underline{\hspace{2cm}}$$

$$4x^2 \underline{\hspace{2cm}}$$

$$5(3) + 9 = 24 \underline{\hspace{2cm}}$$

$$x = 8 \underline{\hspace{2cm}}$$

$$5 + 16(4) \underline{\hspace{2cm}}$$

$$7(6)^2 \underline{\hspace{2cm}}$$

(A) algebraic expression

(B) numerical expression

(C) equation

II. Writing Equations to Solve Word Problems

Three more than a number is eight. What is the number?

Equation Word Problems:

- Write the Word problem as an algebraic equation
- Solve for the unknown amount
- Check the answer.

Five and six tenths less than a number is five and eight hundredths. What is the number?

The amount of money Ann had increased by \$3. Ann now has \$10. How much money did she have originally?

Mrs. Smith brought cupcakes for the youth on Wednesday evening. The number of cupcakes was decreased by ten after twenty students went by the table. Fifteen cupcakes remain on the table. How many cupcakes did Mrs. Smith bring.

6. Twenty-three less than a number is twenty-four. What is the number?

7. Twenty-two more than a number is twenty-three. What is the number?

8. A number added to sixteen is twenty-one. What is the number?

III. Simplifying Algebraic Expressions



g = The number of items in the green bag



b = The number of items in the backpack



$$2g + 2b + 1g + 2b$$

The commutative property of addition allows us to change the order of addition.



$$2g + 1g + 2b + 2b$$

$$3g + 4b$$

Add the "like-terms"
The terms with the same variables (color bags)



$2g$ = The number of items in two green bags

Simplify: $2x + 4x + 3 + x$

Simplify: $3a + 4b + 2a + b$

Simplify: $5m + 2m + 7 + 2n$

9. Simplify: $6s + s + 2s + 3s$

10. Simplify: $4x + 5x + 2v + 3v$

11. Simplify: $m + 2m + 3s + 5 + 4s$

V. Practice

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