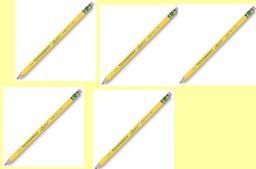


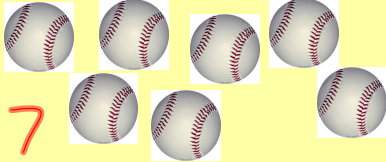
Variables and Algebra

How many pencils?



5

How many baseballs?



7

A **variable** is a letter or symbol used to represent an unknown or unspecified number. A **coefficient** is a whole number in front of a variable.

$x + x + x$
3x

$d + d$
2d

$g + g + g + g + g + g$
6g

When adding variables, the number of times the variable appears in the addition expression is the coefficient.

What do you think $(x)(x)(x)(x)$ is equivalent to? Remember what we did last week!

x^4

When multiplying variables, the number of times the variable is multiplied is the exponent

Simplify each expression:

1. $y + y + y + y + y + y$ 6y
2. $(r)(r)(r)(r)(r)$ r^5
3. $x + y + y$ $x + 2y$
4. $(d)(w)(d)(d)(d)(w)$ d^4w^2
5. $f + f + f$ 3f
6. $aaaaaaa$ a^8

»
 1. Look if + or x
 2. If +, # of times is coefficient
 3. If x, # of times is exponent
➔

We can combine like terms when we have the same variable and same exponent.

$$3x + 7x$$

$$10x$$

Combine like terms:

$$9y + 4s$$

7. $6x^2 - 4x^2$

$$\begin{array}{r} x^2 \\ x^2 \\ \hline 2x^2 \end{array}$$

8. $4a^5 - 2a^5 + 4b + 1b$
 $2a^5 + 5b$

9. $4x + 4y + 7x$
 $11x + 4y$

10. $3x + 12y + 8z - 2y + 4z$

$$3x + 10y + 12z$$

P253

⑦ $5x^2 + 3^2$
 $5x^2 + 9$
 $10 + 7$
 19

⑪ $12 + \frac{9}{3}$
 $12 + \frac{81}{3}$
 $12 + 27$
 39

PEMDAS

⑧ $15 - 7x^2 + 2^3$
 $15 - 7x^2 + 8$
 $15 - 14 + 8$
 $1 + 8 = 9$

P280
 $9 - 12$

p280

$$\textcircled{9} \quad 8y - 3y$$

$$5y$$

$$\textcircled{10} \quad 6x^2 + 4(x^2 - 1)$$

$$6x^2 + 4x^2 - 4$$

$$10x^2 - 4$$

$$\textcircled{11} \quad 4a^5 - 2a^3 + 4b + 6$$

$$2a^5 + 5b$$

$$\textcircled{12} \quad 8m + 14 - 12 + 4n$$

$$8m + 4n + 2$$

Matching Game

Work with a partner to find like terms. After you have paired all like terms together, combine them in your notebook.

Same Exponent

Same Variable

$$4x^3y \quad 3x^3$$

HW: WB p 281 #s 15-22

