

Evaluating Expressions

$$a = 1$$

$$b = 2$$

$$c = 3$$

$$a + b + c =$$

$$1 + 2 + 3 = 6$$

$$c - a =$$

$$3 - 1 = 2$$

symbols for multiplication

examples

- | | | |
|-------------------------|-------|--------------------------|
| 1) traditional | X | $4 \times 3 = 12$ |
| 2) asterisk | * | $7 * 6 = 42$ |
| 3) dot | . | $3 \cdot 5 = 15$ |
| 4) parentheses | () | $n(3-1) = n(2) = 2n$ |
| 5) adjacent letters | ab | $ab = a \cdot b = a * b$ |
| 6) numbers next letters | 3b | $3b = 3 \cdot b = 3(b)$ |
| 7) exponents | m^2 | $m^2 = m \cdot m = mm$ |

symbols for division

1) traditional $10 \div 5 = 2$

2) fractions $\frac{10}{2} = 10/2 = 5$

3) long division
$$\begin{array}{r} 4 \\ 3 \overline{)12} \end{array}$$

4) letters $\frac{a}{b} = a/b = a \div b = b \overline{)a}$

Modeling Verbal Expressions

let x represent an unknown expression

Example:

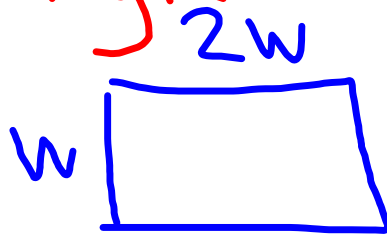
• eight more than four times the number

$$4x + 8$$

• difference of nine and the number

$$9 - x$$

• length of a rectangle is twice the width



Practice

let $a=1; b=2; c=3$ and
so on until $z=26$

* have your parents
give you problems like

$$\frac{a+x}{e} = \frac{1+24}{5} = 5$$

(answers on next page)

Try:

abcde =

abcdefg =

math =

***and if you
have a lot
of time and
energy,***

geometry =

Try:

$$\mathbf{abcde = 1 \times 2 \times 3 \times 4 \times 5 = 120}$$

$$\mathbf{abcdefg = 1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 = 5,040}$$

$$\mathbf{math = 13 \times 1 \times 20 \times 8 = 2,080}$$

$$\mathbf{geometry = 7 \times 5 \times 15 \times 13 \times 5 \times 20 \times 18 \times 25 = 307,125,000}$$