

EXAMPLE 6

$A + BC = D$ solve for B

*WORK BACKWARDS.
YOU MUST MOVE THE
A BEFORE YOU CAN
DIVIDE APART THE
C AND B

$B = \frac{D-A}{C}$

NOTICE THAT THE
C IS DIVIDED TO
BE $(D-A)$ TOGETHER

$B = \frac{D-A}{C}$

EXAMPLE 7 *YOU COULD

$s = 180(n-2)$, solve for n

DISTRIBUTE BUT
IT WILL MAKE MORE
WORK WHEN YOU HAVE
TO BREAK IT APART.
TRY DIVIDING AT THE
BEGINNING

$\frac{s}{180} = \frac{(n-2)}{+2}$

YOU DON'T ACTUALLY
NEED THE () ANY
MORE

$\frac{s}{180} + 2 = n$

EXAMPLE 8

$P = 2W + 2L$ solve for W

YOU CAN MOVE THE
ENTIRE $2L$ TERM

$\frac{P-2L}{2} = W$

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VERY SIMILAR
TO EXAMPLE 6

EXAMPLE 10 * b_1 AND b_2 ARE
JUST TERMS. THE A
AND a_2 ARE NOT
ACTUALLY PART OF
THE PROBLEM

$T = b_1 b_2 - F$ solve for b_2

$\frac{T+F}{b_1} = b_2$

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EXAMPLE 11 START FROM THE
OUTSIDE!

$A = \frac{1}{2}h(b_1 + b_2)$, solve for h .

GET RID OF THE
FRACTION FIRST

$2A = h(b_1 + b_2)$

TRICK! YOU CAN DIVIDE
BY THE ENTIRE
 $(b_1 + b_2)$ TERM SINCE
IT IS INSIDE A
().

$\frac{2A}{(b_1 + b_2)} = h$

LAST 10: 8-21

1) Solve for $h \rightarrow A = \frac{1}{2}bh$ $\frac{2A}{b} = h$

2) Solve for $b \rightarrow A = pb - 6$ $\frac{A+6}{p} = b$

3) Solve for $y \rightarrow 6x + 2y = 18$
 $2y = -6x + 18$
 $y = -3x + 9$

WHAT IS A LITERAL EQUATION?

- An equation that contains more than one variable.
- We are going to rearrange the equation to solve for a specified variable.
 - So maybe $y =$, or $x =$, or $b = \dots$

EXAMPLE 1

$W = g^2 + 4$, solve for g^2 means get g^2 by itself or $g^2 =$

$$\begin{array}{r} -4 \quad -4 \\ \hline W - 4 = g^2 \end{array}$$

EXAMPLE 2

$a - b + 1 = c$, solve for a

you can move the b or the 1 first. order here does not matter

$$\begin{array}{r} a - b + 1 = c \\ +b \quad +b \\ \hline a + 1 = c + b \\ -1 \quad -1 \\ \hline a = c + b - 1 \end{array}$$

EXAMPLE 3

$mn = K$ solve for n

to break apart the m and n , divide!

$$n = \frac{K}{m}$$

EXAMPLE 4

$v \cdot d = \frac{m}{v}$ solve for m

SINCE v IS THE BOTTOM OF THE FRACTION (DENOMINATOR) DO THE OPPOSITE (AND MULTIPLY) TO BREAK IT APART

$$vd = m$$

OR

$$dv = m$$

ORDER DOES NOT MATTER IN MULTIPLICATION SO IT CAN SAY vd OR dv

EXAMPLE 5

2. $A = \frac{1}{2}bh$ solve for h

* WE HAVE TO MOVE THE $\frac{1}{2}$ AND b . DO THEM ONE AT A TIME

• TO GET RID OF THE $\frac{1}{2}$, MULTIPLY BY 2 BECAUSE $\frac{1}{2} \times 2$ WILL CANCEL

• NOW DIVIDE BOTH SIDES BY b

$$\begin{array}{r} 2A = \frac{1}{2}bh \\ \frac{2A}{b} = \frac{1}{2}h \\ \frac{2A}{b} = h \end{array}$$