1) $P = 2L + 2W$ Solve for L

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

Do	Undo
L	
$\cdot 2$	$\div 2$
$+2w$	$-2w$
$= P$	$= P$

2) $S = 2\pi rh$ Solve for h

$h = \frac{S}{2\pi r}$

Do	Undo
h	
$\cdot r$	$\div r$
$\cdot 2\pi$	$\div 2\pi$
$= S$	$= S$

3) $E = mc^2$ Solve for m

$m = \frac{E}{c^2}$

Do	Undo
m	
$\cdot c^2$	$\div c^2$
$= E$	$= E$

4) $-20x - 5y = 30$ Solve for y

$y = \frac{30 + 20}{-5}$

Do	Undo
y	
$\cdot -5$	$\div -5$
$-20x$	$+20x$
$= 30$	$= 30$

5) $6x + 3y = -15$ Solve for x.

$x = \frac{-15 - 3y}{6}$

Do	Undo
x	
$\cdot 6$	$\div 6$
$+3y$	$-3y$
$= -15$	$= -15$

6) $12x - 4y = 20$ Solve for y

$y = \frac{20 - 12}{-4}$

Do	Undo
y	
$\cdot -4$	$\div -4$
$+12x$	$-12x$
$= 20$	$= 20$

7) $A = 4\pi r^2$ Solve for r^2

$r^2 = \frac{A}{4\pi}$

Do	Undo
r^2	
$\cdot 4\pi$	$\div 4\pi$
$= A$	$= A$

8) $A = \frac{bh}{2}$ Solve for b.

$b = \frac{2A}{h}$

Do	Undo
b	
$\cdot h$	$\div h$
$\div 2$	$\cdot 2$
$= A$	$= A$

9) $R = \frac{E}{I}$ Solve for E

$R = E$

$E = IR$

Do	Undo
E	
$\div I$	$\cdot I$
$= R$	$= R$

10) $V = \frac{1}{3}Bh$ Solve for h.

$h = \frac{V}{\frac{1}{3}B}$

Do	Undo
h	
$\cdot B$	$\div B$
$\cdot \frac{1}{3}$	$\div \frac{1}{3}$
$= V$	$= V$

11) $m = \frac{2E}{v^2}$ Solve for E.

$E = \frac{mv^2}{2}$

Do	Undo
E	
$\cdot 2$	$\div 2$
$\div v^2$	$\cdot v^2$
$= m$	$= m$

12) $A = 2\pi r^2 h$ Solve for h.

$h = \frac{A}{2\pi r^2}$

Do	Undo
h	
$\cdot r^2$	$\div r^2$
$\cdot 2\pi$	$\div 2\pi$
$= A$	$= A$

a. Find the area of a triangle with a height of 6cm and a base of 3cm.

$A = \left(\frac{1}{2}\right)(3)(6) = \frac{1}{2}(18) = 9\text{cm}^2$

b. Solve the area formula for b.

$b = \frac{A}{\frac{1}{2}h} = b = \frac{2A}{h}$

Do	Undo
b	
$\cdot \frac{1}{2}$	$\div \frac{1}{2}$
$\cdot h$	$\div h$
$= A$	$= A$

c. Find the base of a triangle whose area is 20in and whose height is 4in.

$b = \frac{2(20)}{4} = \frac{40}{4} = 10\text{in}$

$20 = \frac{1}{2} \cdot b \cdot 4$ or $20 = 2b$

$b = 10\text{in}$

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2. The formula $d = rt$ tells the distance traveled at a given rate and time.

a. Solve the equation for t.

$t = \frac{d}{r}$

Do	Undo
t	
$\cdot r$	$\div r$
$= d$	$= d$

b. Determine how long it will take an airplane to travel 2,000 miles if it flies:

i. 200 miles per hour $t = \frac{2000}{200} = 10h$

ii. 400 miles per hour $t = \frac{2000}{400} = 5h$

iii. 600 miles per hour $\frac{2000}{600} = \frac{20}{6} = 3.3h$

$$\begin{array}{r} 3.3 \\ 6\overline{)20} \\ \underline{18} \\ 20 \end{array}$$

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3. The volume of a box V is given by the formula $V = lwh$.

a. Solve the formula for h.

$h = \frac{V}{LW}$

Do	Undo
h	
$\cdot W$	$\div W$
$\cdot L$	$\div L$
$= V$	$= V$

b. What is the height of a box with a volume of 50 cubic meters, length of 10 meters, and width of 2 meters?

$h = \frac{50}{(10)(2)} = \frac{50}{20}$ 2.5m