#1 $A = \frac{bh}{2}$

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

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

#2 $P = 2L + 2W$

$-2W \qquad -2W$

$P - 2W = 2L$

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

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

#3 $E = mc^2$

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

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

#4 $Ax + By = C$

$-Ax \qquad -Ax$

$By = -Ax + C$

$\frac{By}{B} = \frac{-Ax+C}{B}$

$y = \frac{-Ax+C}{B}$

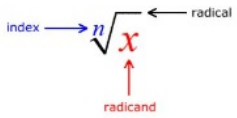
Main Ideas/Questions	Notes
What is a "Radical"?	a symbol to indicate that a root is being taken.

$\sqrt{}$ = square root

$\sqrt[3]{}$ = cube root

Parts of a Radical

- Radical Symbol: the symbol √ or indicating extraction of a root of the quantity that follows it
- Radicand: the quantity under a radical sign
- Index:



- If there is no Index number written, then it in an understood 2!

Simplifying Perfect Square Root Radicals		
	1. $\sqrt{4}$ 2	2. $\sqrt{81}$ 9
	3. $\sqrt{256}$ 16	4. $\sqrt{121}$ 11
	5. $\sqrt{324}$ 18	6. $\sqrt{1}$ 1
	7. $\sqrt{\frac{64}{81}} = \frac{\sqrt{64}}{\sqrt{81}} = \frac{8}{9}$	8. $\sqrt{\frac{1}{16}} = \frac{\sqrt{1}}{\sqrt{16}} = \frac{1}{4}$
	9. $\sqrt{\frac{9}{100}} = \frac{\sqrt{9}}{\sqrt{100}} = \frac{3}{10}$	10. $\sqrt{\frac{25}{49}} = \frac{5}{7}$

Simplifying Non-Perfect Square Root Radicals

To simplify non-perfect square roots,
you need to know at least your first 10 perfect square numbers:

1, 4, 9, 16, 25, 36, 49, 64, 81, 100

(Find the ***greatest perfect square*** that goes into the radical)

11. $\sqrt{24}$

$\sqrt{4 \cdot 6}$

$\sqrt{4} \cdot \sqrt{6}$

$2\sqrt{6}$

12. $\sqrt{48}$

$\sqrt{16 \cdot 3}$

$\sqrt{16} \cdot \sqrt{3}$

$4\sqrt{3}$

13. $\sqrt{72}$

$\sqrt{36 \cdot 2}$

$\sqrt{36} \cdot \sqrt{2}$

$6\sqrt{2}$

14. $\sqrt{90}$

$\sqrt{9 \cdot 10}$

$\sqrt{9} \cdot \sqrt{10}$

$3\sqrt{10}$

15. $\sqrt{175}$

$\sqrt{25 \cdot 7}$

$\sqrt{25} \cdot \sqrt{7}$

$5\sqrt{7}$

16. $\sqrt{162}$

$\sqrt{81 \cdot 2}$

$\sqrt{81} \cdot \sqrt{2}$

$9\sqrt{2}$

17. $\sqrt{117}$

$3\sqrt{13}$

18. $\sqrt{245}$

$7\sqrt{5}$

21. $\sqrt{63}$

$3\sqrt{7}$

22. $\sqrt{216}$

$6\sqrt{6}$