**Solving For Variables**

Do you recognize these equations? You will be rewriting the following given equations in order to solve for each variable.

* 1. Given that *A= L x W* (L times W)
		1. Solve for L
		2. Solve for W
	2. Given that *P=2L + 2W*
		1. Solve for *L*
		2. Solve for *W*
	3. Given that *V= L x W x H*
		1. Solve for *L*
		2. Solve for *W*
		3. Solve for H
	4. Given that *C* =*π*r
		1. Solve for *r*
	5. Given that *A = πr2*
		1. Solve for *r*

**Solutions**

1. i. To solve for *L* we divide both sides by *W*, resulting in $\frac{A}{W}$ = *L*

ii. To solve for *W* we divide both sides by L, resulting in $\frac{A}{L}$ = *W*

1. i. To solve for *L* we subtract *2W* from both sides then divide by 2, resulting in $\frac{P-2W}{2}$ = *L*

ii. To solve for *W* we subtract *2L* from both sides then divide by 2, resulting in $\frac{P-2L}{2}$ = *W*

1. i. To solve for *L* we divide both sides by *(W)(H),* resulting in $\frac{V}{(W)(H)} $*= L*

ii. To solve for *W* we divide both sides by *(L)(H),* resulting in $\frac{V}{(L)(H)} $*= W*

iii. To solve for *H* we divide both sides by *(L)(W),* resulting in $\frac{V}{(L)(W)} $*= H*

1. i. To solve for *r* we divide both sides by *π,* resulting in *C/π = r*
2. i. To solve for *r* we divide both sides by *π* then take the square root from both sides, resulting in $\sqrt{\frac{A}{π} }$*= r*