The most important equations in Vibration!!

I'm sick of always looking for the conversion between displacement, velocity, and acceleration when it comes to measuring or creating vibration. I recently had a customer ask me if we had a shaker that could do 0.25g's @ 1Hz? I am going to post this so that I can find the equation on my website as can everyone else:

Peak Velocity in Inches per Second, $V = 61.7 * a/f$
Peak Displacement in inches, $D = 9.78\ 8\ a/(f^2)$

**a is acceleration in g's
**f is frequency in Hertz

I hope this helps someone out there!

Remember this only applies to discrete single frequencies!