Calculating Doppler Shift
The EASY way!

$$df = -f * \frac{dr/dt}{c}$$

f is the transmitted frequency

c is the speed of light

dr/dt is the rate of change of distance vs time

The only thing to remember from this formula is that things are simply proportional. Proportional to f, and proportional to dr/dt.
Don't take notes on this. Only engineers care about this stuff.