









Item	Quantity	Cost
 <p>2" x 10Ft PVC Pipe 2' x 5ft PVC Pipe Lowe's Item#23832 & 23833</p>	<p>2 1</p>	<p>\$6.55ea \$5.24ea</p>
 <p>2" PVC Pipe End Cap Lowe's Item#23900</p>	<p>4</p>	<p>\$1.18ea</p>
 <p>2" PVC Pipe Elbow Lowe's Item#23910</p>	<p>3</p>	<p>\$1.70ea</p>
 <p>2" PVC Pipe "T" joint Lowe's Item#23908</p>	<p>2</p>	<p>\$2.30ea</p>
 <p>8" Composite Door Shims Lowe's Item#90064</p>	<p>5Packs (12 per pack)</p>	<p>\$1.51ea</p>
 <p>3' x 1/4" Threaded Rod Lowe's Item#69886</p>	<p>1</p>	<p>\$1.88</p>
 <p>1/4" WingNut Lowe's Item#58095</p>	<p>2</p>	<p>\$1.24</p>
 <p>1/4" HexNut Lowe's Item#63301</p>	<p>100 (box)</p>	<p>\$8.00</p>

Total = \$52.67

- 1. Cut PVC pipe for pole to length**
 1. Measure one 10' Pipe, and cut it into two pieces, one is 3ft, the other is 7ft
 2. Cut two 1ft pieces of pipe from the 5ft pole you purchased
- 2. Cut PVC Pipe for base to length**
 1. Measure one 10' Pipe, and cut so you have 2x 3ft pieces and one 4ft piece remaining
 2. Take the 4ft piece and cut it in half so it is now 2x 2ft pieces
3. Connect pipes and pieces with elbow and "T" joints as seen and finish off with PVC cap pieces as shown. (Fill base with sand for weight)
4. Drill holes in arm for threaded rod as shown
5. Drill holes in composite door shims 1 inch from thick end and center of shim. Use a drill press to stay as straight as possible.
6. Put shims on threaded pole and alternate shim/hex nut, shim/hex nut, etc.
7. Place threaded pole with shims on pole arm and finish with Wing Nuts to hold in place. (Wing nut can be used to adjust tension of the shims)
8. Use whatever you wish to measure and mark heights or to color shims etc.

Example Shim w/ drilled hole

