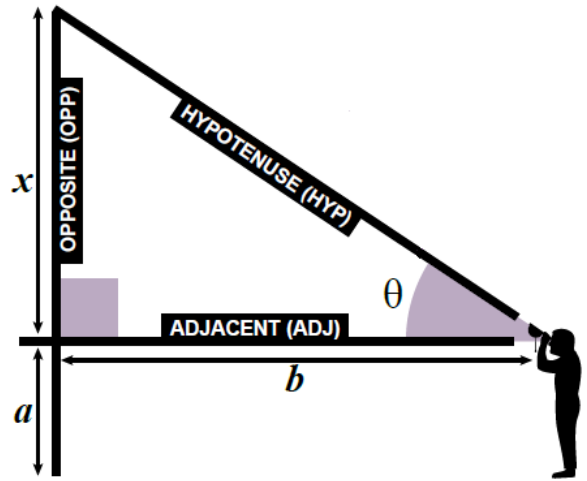


Name _____

Date _____

Measuring Height

- Stand back far enough that you can see the apex of the object you want to measure.
- Look through the clinometer at the apex of the object and wait until the plumb line settles. Note the angle on the clinometer below.
- Measure the horizontal distance in feet from where you are standing to the object you are measuring. This is the adjacent distance (b).
- Measure your height in feet (a).
- To find the height of the object, multiply the adjacent distance (b) by the tangent of the angle from the clinometer. Use the table of tangents below to determine this number. Add the product to your height (a).



| Object | Adjacent Distance (b) | Clinometer Angle | Your Height | Object Height |
|--------|-----------------------|------------------|-------------|---------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TAN TABLE

| Angle | tan | Angle | tan | Angle | tan | Angle | tan | Angle | tan | Angle | tan |
|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|----------|
| 0° | 0.00 | 15° | 0.2679 | 30° | 0.5773 | 45° | 1.000 | 60° | 1.7321 | 75° | 3.7321 |
| 1° | 0.0175 | 16° | 0.2867 | 31° | 0.6009 | 46° | 1.0355 | 61° | 1.8040 | 76° | 4.0108 |
| 2° | 0.0349 | 17° | 0.3057 | 32° | 0.6249 | 47° | 1.0724 | 62° | 1.8907 | 77° | 4.3315 |
| 3° | 0.0524 | 18° | 0.3249 | 33° | 0.6494 | 48° | 1.1106 | 63° | 1.9626 | 78° | 4.7046 |
| 4° | 0.0699 | 19° | 0.3443 | 34° | 0.6745 | 49° | 1.1504 | 64° | 2.0503 | 79° | 5.1446 |
| 5° | 0.0875 | 20° | 0.3640 | 35° | 0.7002 | 50° | 1.1918 | 65° | 2.1445 | 80° | 5.6713 |
| 6° | 0.1051 | 21° | 0.3839 | 36° | 0.7265 | 51° | 1.2349 | 66° | 2.2460 | 81° | 6.3138 |
| 7° | 0.1228 | 22° | 0.4040 | 37° | 0.7535 | 52° | 1.2799 | 67° | 2.3559 | 82° | 7.1154 |
| 8° | 0.1405 | 23° | 0.4245 | 38° | 0.7813 | 53° | 1.3270 | 68° | 2.4751 | 83° | 8.1443 |
| 9° | 0.1584 | 24° | 0.4452 | 39° | 0.8098 | 54° | 1.3764 | 69° | 2.6051 | 84° | 9.5144 |
| 10° | 0.1763 | 25° | 0.4663 | 40° | 0.8391 | 55° | 1.4281 | 70° | 2.7475 | 85° | 11.430 |
| 11° | 0.1944 | 26° | 0.4877 | 41° | 0.8693 | 56° | 1.4826 | 71° | 2.9042 | 86° | 14.301 |
| 12° | 0.2126 | 27° | 0.5095 | 42° | 0.9004 | 57° | 1.5399 | 72° | 3.0777 | 87° | 19.081 |
| 13° | 0.2309 | 28° | 0.5317 | 43° | 0.9325 | 58° | 1.6003 | 73° | 3.2709 | 88° | 28.636 |
| 14° | 0.2493 | 29° | 0.5543 | 44° | 0.9657 | 59° | 1.6643 | 74° | 3.4874 | 89° | 57.290 |
| | | | | | | | | | | 90° | infinite |