

PERMANENT WAY
NOTES

TRIGONOMETRICAL FUNCTIONS, ETC. OF
CROSSING ANGLES

(1) 1 IN. = 10 FT.
1 IN. = 6 FT.

THESE NOTES ARE INTENDED FOR THE GUIDANCE AND ASSISTANCE OF STAFF ENGAGED UPON PERMANENT WAY WORK. THEY DO NOT IN ANY WAY MODIFY, SUPPLEMENT OR AMEND THE INSTRUCTIONS LAID DOWN IN THE STANDARD DRAWING CIRCULARS ETC., WHICH SHOULD BE REFERRED TO IN ALL CASES.

| ANGLE | DECS. MINUTES | SINE | LOG. SINE | COSINE | LOG. COS. | TANGENT | LOG. TAN. |
|--------|---------------|----------|-----------|----------|-----------|-----------|-----------|
| 1 IN 1 | 53° 7' 80621 | '8000000 | T'9030900 | '6000000 | T'7781513 | '13333333 | 0'24938 |
| 1 1/8 | 47° 55' 49889 | '7422680 | T'8705608 | '6701031 | T'8261417 | '11076918 | 0'04441 |
| 1 1/4 | 43° 36' 16928 | '6896552 | T'8386320 | '7241380 | T'8598213 | '9523809 | T'978810 |
| 1 1/8 | 39° 57' 97280 | '6423357 | T'8077621 | '7664233 | T'8844687 | '8380952 | T'92329 |
| 1 1/2 | 36° 52' 19402 | '6000000 | T'7781513 | '8000000 | T'9030900 | '7500000 | T'87500 |
| 1 5/8 | 34° 12' 32773 | '5621623 | T'7498616 | '8270272 | T'9175197 | '6797386 | T'83234 |
| 1 3/4 | 31° 53' 44793 | '5283019 | T'7228821 | '8490564 | T'9289366 | '6222222 | T'79394 |
| 1 7/8 | 29° 51' 77027 | '4979252 | T'6971642 | '8672200 | T'9381293 | '5741627 | T'75903 |
| 2 | 28° 4' 34954 | '4705882 | T'6726411 | '8823530 | T'9456424 | '5333333 | T'72691 |
| 2 1/8 | 26° 28' 86301 | '4459016 | T'6492391 | '8950818 | T'9518628 | '4981685 | T'69733 |
| 2 1/4 | 25° 3' 45744 | '4235294 | T'6268836 | '9058822 | T'9570718 | '4675325 | T'66981 |
| 2 1/8 | 23° 46' 63956 | '4031830 | T'6055022 | '9151194 | T'9614777 | '4405798 | T'6440 |
| 2 1/2 | 22° 37' 19259 | '3846153 | T'5850267 | '9230770 | T'9652379 | '4166666 | T'61978 |
| 2 5/8 | 21° 34' 11592 | '3676149 | T'5653931 | '9299780 | T'9684727 | '3952942 | T'5969 |
| 2 3/4 | 20° 36' 58224 | '3520000 | T'5465427 | '9360000 | T'9712759 | '3760684 | T'57520 |
| 2 7/8 | 19° 43' 89699 | '3376146 | T'5284213 | '9412846 | T'9737209 | '3586744 | T'55470 |
| 3 | 18° 55' 47933 | '3243243 | T'5109795 | '9459459 | T'9758663 | '3428571 | T'53511 |
| 3 1/8 | 18° 10' 83411 | '3120125 | T'4941720 | '9500780 | T'9777593 | '3284073 | T'5164 |
| 3 1/4 | 17° 29' 54014 | '3005780 | T'4779572 | '9537570 | T'9794378 | '3151515 | T'4985 |
| 3 3/8 | 16° 51' 23721 | '2899329 | T'4622975 | '9570469 | T'9809332 | '3029453 | T'48130 |
| 3 1/2 | 16° 15' 61281 | '2800000 | T'4471580 | '9600000 | T'9822712 | '2916666 | T'46480 |
| 3 5/8 | 15° 42' 39827 | '2707118 | T'4325072 | '9626604 | T'9834731 | '2812121 | T'4490 |
| 3 3/4 | 15° 11' 35816 | '2620087 | T'4183158 | '9650654 | T'9845568 | '2714932 | T'43370 |
| 3 7/8 | 14° 42' 28608 | '2538383 | T'4045571 | '9672466 | T'9855372 | '2624338 | T'41900 |
| 4 | 14° 15' 00313 | '2461538 | T'3912066 | '9692309 | T'9864272 | '2539683 | T'4047 |
| 4 1/4 | 13° 25' 18162 | '2320819 | T'3656413 | '9726962 | T'9879773 | '2385965 | T'3776 |
| 4 1/2 | 12° 40' 82427 | '2195122 | T'3414586 | '9756097 | T'9892761 | '2250000 | T'35210 |
| 4 3/4 | 12° 1' 08209 | '2082192 | T'3185207 | '9780822 | T'9903753 | '2128851 | T'32810 |
| 5 | 11° 25' 27252 | '1980198 | T'2967086 | '9801980 | T'9913138 | '2020202 | T'3053 |
| 5 1/4 | 10° 52' 84134 | '1887640 | T'2759193 | '9820224 | T'9921214 | '1922197 | T'2837 |
| 5 1/2 | 10° 23' 33288 | '1803279 | T'2560629 | '9836067 | T'9928214 | '1833333 | T'2632 |
| 5 3/4 | 9° 56' 37011 | '1726079 | T'2370606 | '9849907 | T'9934321 | '1752381 | T'2436 |
| 6 | 9° 31' 63802 | '1655172 | T'2188432 | '9862069 | T'9939680 | '1678322 | T'2248 |
| 6 1/4 | 9° 8' 87233 | '1589825 | T'2013494 | '9872817 | T'9944410 | '1610306 | T'2069 |
| 6 1/2 | 8° 47' 84519 | '1529412 | T'1845244 | '9882354 | T'9948604 | '1547619 | T'1896 |
| 6 3/4 | 8° 28' 36856 | '1473397 | T'1683198 | '9890860 | T'9952340 | '1489655 | T'1730 |