Appendix B – 34.92-Degree Throwing Sector Set-up

   The 34.92 degree throwing sector is an isosceles triangle having two equal sides, with the base of the triangle always being .6 of the length of either side. The sector may be prepared by using three tapes and three people or one tape, two people and stakes to clearly designate measurements.

3-3 System: Example Shot Put

1. Measure out from center of the circle with two tapes. (Diagram A)
2. Pull two tapes tight and then separate them by 12 meters at the 20 meter mark on each tape. (Diagram B)
3. One person holds the two tapes which will locate the sector lines in the center of the circle. (Diagram B)
4. Second person pulls tight on one of the sector line tapes and holds the zero mark of the cross measuring tape at the 20-meter mark. (Diagram B)
5. Third person pulls tight on the other sector line tape and holds the 12-meter mark of the cross measuring tape at the 20-meter mark. (Diagram B)
6. Sector lines are centered on the stopboard and permanent pins or stakes are placed at the ends of sector lines. (Sector lines can be extended if longer throws are anticipated.) (Diagram C)
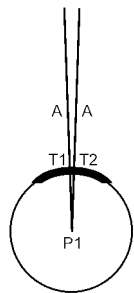
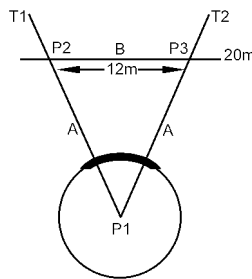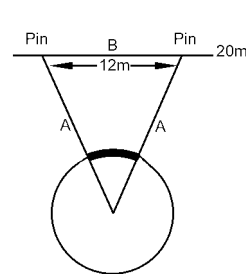Diagram A   Diagram B   Diagram C

A=Sector line B=Cross measurement P=Person T=Tape

Sectors for the discus and hammer are set up in a similar manner, keeping the ratio of cross measurement length to sector line length at 0.6. For example, one might use sector lines of 60 meters and a cross measurement of 36 meters for the discus and 70 meters and 42 meters for the cross measurement for the hammer.

1-2 System: Example Shot Put

1. From the center of the 7-foot shot put circle, measure one of the outer boundary lines (sector lines) to a point 20 meters out and make a mark, #1. (Diagram D, mark #1)
2. Measure 12 meters (.6 of the length of the 20-meter boundary line) from mark #1 toward the second outer boundary line and make a second mark, #2. (Diagram E, mark #2)
3. From the center of the shot put circle, measure 20 meters for the opposite boundary line and align the 20-meter measurement with mark #2 with this measurement. (Diagram F)

1-2 System: Example Discus

4. From the center of the 8'2½" discus circle, measure one of the outer boundary lines (sector lines) to a point 60 meters out and make a mark, #1. (Diagram D, mark #1)
5. Measure 36 meters (.6 of the length of the 60-meter boundary line) from mark #1 toward the second outer boundary line and make a second mark, #2. (Diagram E, mark #2)
6. From the center of the discus circle, measure 60 meters for the opposite boundary line and align the 20 meter measurement with mark #2 with this measurement. (Diagram F)

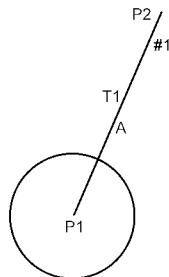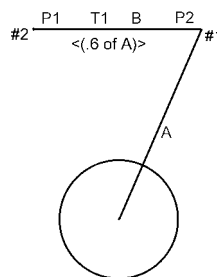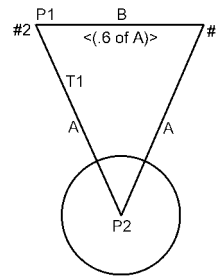Diagram D   Diagram E   Diagram F

A=Sector line B=Cross measurement P=Person T=Tape

NOTE: The javelin sector is set out in a similar manner, except the sector angle is 28.96 degrees, which is the angle between the two equal sides of an isosceles triangle having the unequal side 0.5 times the length of the equal sides and is mathematically expressed as 2arcsin(0.25).