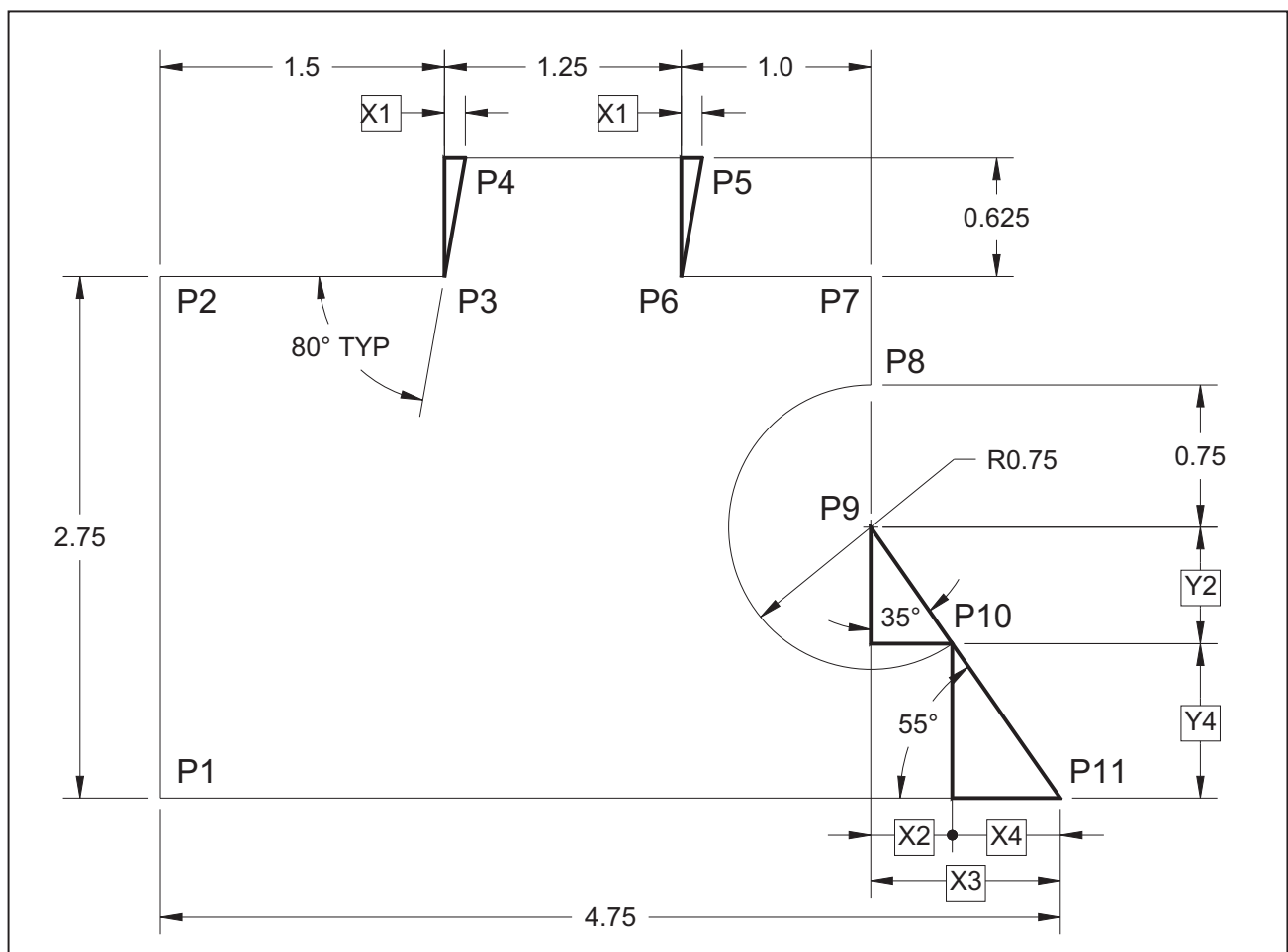


Contour Points 3

Trigonometric solution is the most common method for solving unknown points on a contour. The illustration below shows the triangles to be solved.

The order of calculations is equally important, not only for the reasons of good organization - often the result of one calculation will be used to for another calculation.



Always be careful about rounding - accumulative errors can cause problems

➡ Order of calculations:

$$X1 = 0.625 \times \tan 10^\circ = 0.110204363$$

$$X2 = 0.75 \times \sin 35^\circ = 0.430182327$$

$$Y2 = 0.75 \times \cos 35^\circ = 0.614364033$$

$$X3 = 4.75 - (1.5 + 1.25 + 1) = 1.0$$

$$X4 = X3 - X2 = 0.569817673$$

$$Y4 = X4 / \tan 35^\circ = 0.813783974$$

From these calculations, the XY coordinate sheet can be made:

Point	X coordinate	Y coordinate
P1	0.0000	0.0000
P2	0.0000	2.7500
P3	1.5000	2.7500
P4	1.6102	3.3750
P5	2.8602	3.3750
P6	2.7500	2.7500
P7	3.7500	2.7500
P8	3.7500	2.1781
P9	3.7500	1.4281
P10	4.1802	0.8138
P11	4.7500	0.0000