

# MARKING AN ATHLETICS FIELD



## SECTION 1. MARKING AN ATHLETICS FIELD – INDEX

### 1. Introduction

### 2. Planning the Field Layout

### 3. Equipment

### 4. Marking a 400 Metre Track

- 4.1 Locating a 400 metre Track  
Within a Field
- 4.2 Lining the Track
- 4.3 The Finish line
- 4.4 100 Metre Start
- 4.5 200 Metre Start
- 4.6 400 Metre Start
- 4.7 800 Metre Start
- 4.8 1500 Metre Start
- 4.9 3000 Metre Start
- 4.10 4 x 100 Metre Relay
- 4.11 4 x 400 Metre Relay
- 4.12 Hurdles
- 4.13 Steeplechase

### 5. Marking a 300 Metre Track

- 5.1 Locating a 300 metre Track  
Within a Field
- 5.2 Lining the Track
- 5.3 The Finish line
- 5.4 100 Metre Start
- 5.5 200 Metre Start
- 5.6 400 Metre Start
- 5.7 800 Metre Start
- 5.8 1500 and 3000 Metre Events
- 5.9 4 x 100 Metre Relay
- 5.10 Hurdles
- 5.11 Steeplechase

### 6. Colour Coding

- 6.1 Relays
- 6.2 Hurdles

### 7. Field Events

- 7.1 Introduction
- 7.2 Long Jump
- 7.3 Triple Jump
- 7.4 High Jump
- 7.5 Pole Vault
- 7.6 Shot Put
- 7.7 Discus
- 7.8 Javelin
- 7.9 Hammer

# MARKING AN ATHLETICS FIELD



## 1. INTRODUCTION

For sport days or inter school carnivals, one of the most important requirements is a clearly and accurately marked track and field.

The task of marking a track accurately may seem to rely on an understanding of advanced geometric principles such is not the case. Outlined in this manual are two practical examples of detailed 400 and 300-metre tracks on a given size field.

A minimum amount of equipment is required to create a 400 or 300 metre track and field. Apart from a line marking machine and some white paint, or other suitable marking material, all that is required is one or two good quality 100 metre tapes, lots of string, coloured ribbons and several wooden pegs or markers.

# MARKING AN ATHLETICS FIELD



## 2. PLANNING THE FIELD LAYOUT

Field layouts may vary depending on the size of the field and the range of planned events. The two layouts shown in this manual will accommodate the usual range of track and field events and for safety reasons will locate all throwing events so that the implements are thrown towards the centre and away from the side of the field where most track events occur.

When preparing the layout to a track, several points need to be taken into consideration:

- All judges and timekeepers must have a clear view of the starts and the starter.
- Judges and timekeepers should not be looking into the sun approaching the finish line.
- Runners should not have to look into the sun as they approach the finish line.
- All races should be run in an anti-clockwise direction so that all field events are kept on the left hand side of the runners.
- The jumps and throwing events should not be placed so that the sun is in the eyes of the competitors at crucial times.
- The safety of all competitors and officials should always be prime consideration. It is usual to place the throwing zones for these events so that the athletes throw towards the centre of the field. The centre of the field becomes a recognised zone from which all persons except relevant officials are excluded. Throwing zones may overlap. However, if zones are overlapped then events must not be held simultaneously.

# MARKING AN ATHLETICS FIELD



## 3. EQUIPMENT

### 3.1 Line Markers

The lines that are used to identify lanes, starts, finishes etc, are usually applied with a line-marking machine. If a school does not have a line-marking machine, one may be borrowed from a local football club, athletic club or local council.

The line-markers use a pressurising system that produces a spray of paint or other mixture. Two wheels spaced exactly 5 centimetres apart restrict the spray and direct it toward the ground to form a standard line 5 centimetres wide.

### 3.2 Paint

There are several ways in which to mark the lines.

- Kerosene – This is the cheapest form of line marking. It leaves a clear line of dead grass and bare soil for a complete season.
- Powdered lime – The powdered lime is mixed with water before application. A white line is produced but is washed away by heavy rain or watering.
- Semi-Permanent line – A mixture of water-based white plastic paint and water. This mixture may last for several weeks depending on the growth of the grass and amount of rain.
- Kerosene and paint – The most permanent and clearly defined marking is using kerosene three weeks before competition and going over the lines with white plastic paint mixture a couple of days before the competition.

### 3.3 Other Equipment

The following items may also be required to complete the job.

- 100 metre measuring tape
- A number of 110 metre lengths of strong rope.
- Fourteen white pegs as temporary ground markers.
- Two or three spikes to hold the lengths of rope in position.
- One hammer

# MARKING AN ATHLETICS FIELD



## MARKING A 400 METRE TRACK

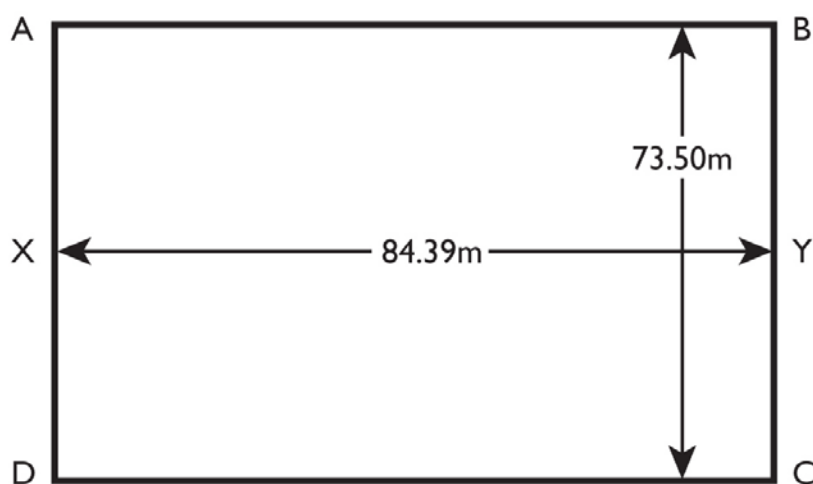
The actual job of marking can be daunting, but the following sections will outline the method of effectively marking a 400 metre track. The job can be made even easier if more than one person is helping with the job. A great help is to have the grass mowed three days before the field is to be marked.

### 4.1 Locating a 400-Metre Track Within a Field

The following section will outline how to mark a 400-metre track with a straight of 100 metres on a field. The field or oval where the track is to be marked should have the dimensions of 183 metres by 83 metres. An eight-lane track is assumed but if space is restricted a six-lane track may be marked.

The track will have two straights with curves at each end. The finish line will be at the end of the main straight. The first and most basic aim is to locate a base rectangle of dimensions 84.39 metres by 73.50 metres within the centre of the field. Once this rectangle has been located the track can easily be marked. It is essential then to take some time to accurately position this base rectangle.

The diagram below shows the dimension and the points for the base rectangle.



The points AB show the inside lane for the main straight. Points CD show the inside lane for the back straight. Four pegs should be placed at points A, B, C and D. Rope needs to be strung between each of the points to create the base rectangle. The two other most important points in the construction of the track are X and Y.

Point X is situated exactly midway between points A and D. X is 36.50 metres from A and 36.50 metres from D on the line AD.

Point Y is situated exactly midway between points B and C. Y is 36.50 metres from B and 36.50 metres from C on the line BC.

Both points X and Y are to be marked with a peg. These are such important points that on some grounds these are permanently marked. These points are to be used to construct the curves and the lanes.

# MARKING AN ATHLETICS FIELD



As the eight lanes of the track surround the rectangle and each lane is a standard 1.22 metres wide, the eight lanes take up a width of 9.76 metres. Points X and Y, therefore, need to be a minimum of 46.26 metres from either end of the oval or field.

As a last requirement, ensure that X and Y are 84.39 metres apart.

Make two lengths of rope that are both 50 metres long and have a spike at one end. From the spike, measure 36.50 metres and tie a coloured ribbon onto the string. Each additional 1.22 metres, tie another coloured ribbon until you have attached a total of 9 ribbons. To prevent the attached ribbons from moving, intertwine the ribbon in the string or rope strands.

Insert one spike in the ground at point X. From X stretch the string taut and walk in a semi circle around the perimeter of the field. As you do this watch the coloured ribbons – as you walk, they describe the inside edges of eight lanes and the outside line for the eighth lane. Repeat at the other end of the field, using Y as the centre of the semi-circle.

Thus by marking only two points in the ground we are able to trace eight lanes round the most difficult part of the track – the curves at either end. Now we have established the basic shape of the track we are in a position to start marking in lanes, staggered starts, changeover zones and the like.

## 4.2 Lining the Track

The field is now ready for the lines to be marked.

- Check that the ropes or strings marking any straight lines (such as AB, BC, CD and AD) are taut.
- Prepare the lining mixture, fill the lining machine and pressurise the contents.
- Start at point B and keeping the string marking at the right hand edge of the 5 centimetre wide line, mark BA.

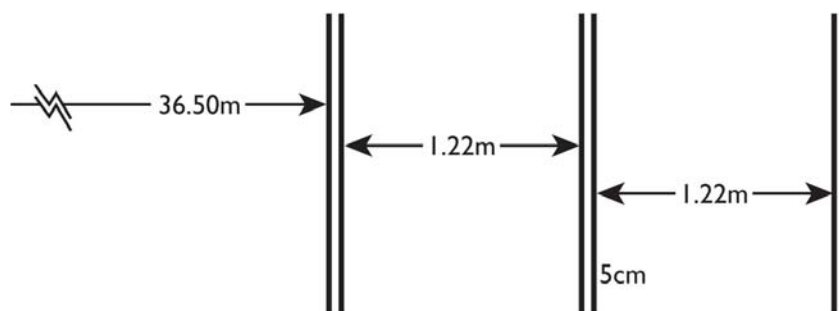
The next step is to have an assistant tension the string with its nine ribbons that is still attached to X and walk slowly round the curve to D. Follow the first ribbon out from X, keeping the ribbon as the guide for the right hand edge of the line. If the ribbon is hard to follow accurately, replace it with a spike or peg. Ensure that the rope or string is kept uniformly taut to produce an even semi-circle.

Continue down the back straight along the string marking DC. Then repeat the process for marking the curves using point Y and walk backwards to B to mark the curve CB.

To mark the next line, the inside of line of lane two, proceed as follows.

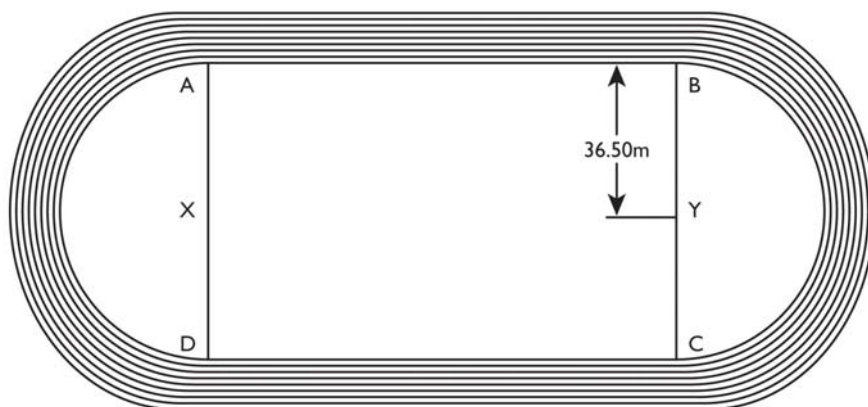
- Lay the string attached to X through point A out along the finish line.
- Lay the string attached to Y through point B along the 100-metre start line.
- Join the points indicated by the second ribbons on each string with a further 100 metre length to indicate the inside line of lane two.
- Ensure that the string is 1.22 metres from the nearer edge of the previously marked line.

# MARKING AN ATHLETICS FIELD



- Repeat for the back straight
- Start marking the line from B towards A, keeping all strings and ribbons as guides to the right hand edge of the line as you move anti-clockwise around the track.
- On reaching A, have an assistant walk with the string attached to X around the curve to D while you follow the second ribbon.
- Continue down the back straight and around the home bend back to B.
- Continue in this manner until you have marked the number of lanes required.
- The lanes for the 400-metre track are now completely marked.

# MARKING AN ATHLETICS FIELD



## 4.3 The Finish Line

The point A on the base rectangle indicates the finish line. Extend the line DA by 10m to the final lane mark and mark it with string. This is the finish line. This line is also the beginning for the runner in lane one for the 400-metre and 800-metre events and both relays.

## 4.4 100-Metre Start

Measuring from the finish line that you completed, measure 100m towards B. This will finish 15.61m beyond the extension to CB line. Check a mark in each lane and then mark a 5cm line across the track.

Working from the inside edge of the track, mark both of the lines, once again keeping the string as a guide to the right-hand edge of the line.

Your field should not have a complete straight of 100-metres, as the bend will begin. The main straight will need to be extended to ensure that the 100-metre event is not run around the curve. In these cases, use the 100-metre tape to measure from the finish line (line AD) back along the straight to locate the start (as discussed previously).





# MARKING AN ATHLETICS FIELD



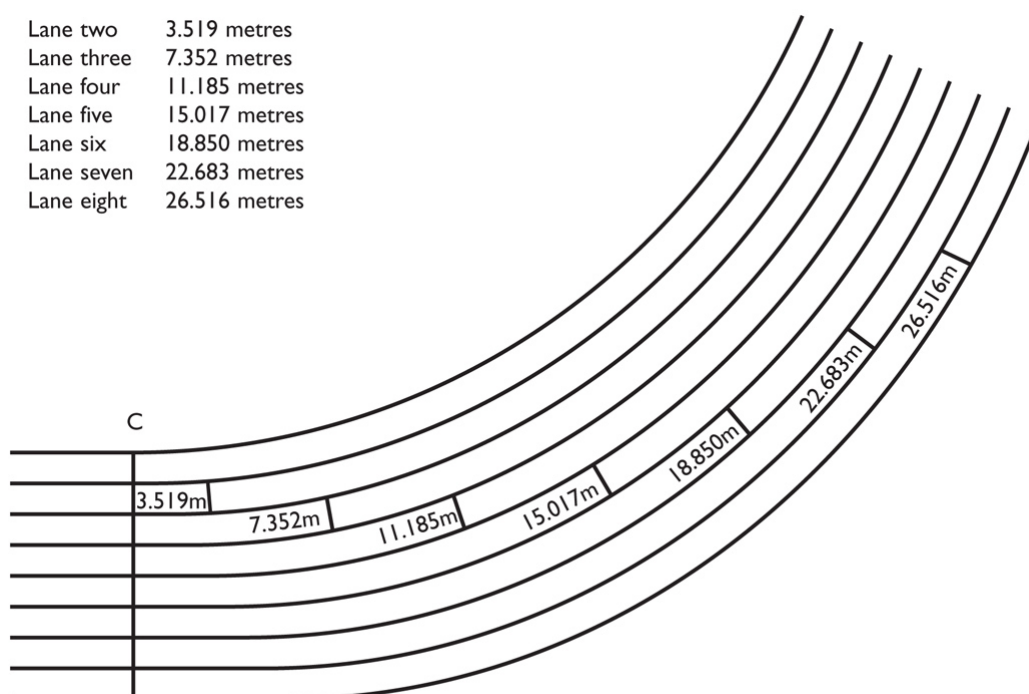
## 4.5 200-Metre Start

Extend the line BC beyond the point C by ten metres and mark with a string. This is the start line for the runner in lane one for the 200-metre and is the centre of the second changeover zone for the 4 x 100-metre relay.

To mark the staggered lines for the 200-metres, firstly mark the line across lane one only, keeping the string as a guide to the right hand edge of the line.

Using the string as your starting point for each of the other lanes, measure forward the following distances within each lane to produce the staggered starts. When measuring the staggers, make the measurements along a line 20 centimetres from the left-hand edge of the lane facing the way the athletes run.

Lane two	3.519 metres
Lane three	7.352 metres
Lane four	11.185 metres
Lane five	15.017 metres
Lane six	18.850 metres
Lane seven	22.683 metres
Lane eight	26.516 metres



## 4.6 400-Metre Start

The start of this event is the previously marked finish line (A). Thus the start line for lane one is already marked. Using the rear edge of this line as your starting point for each of the other lanes, measure forward the following distances within each lane to produce the staggered starts.

Lane two – 7.038 metres

Lane three – 14.704 metres

Lane four – 22.370 metres

Lane five – 30.034 metres

Lane six – 37.700 metres

Lane seven – 45.366 metres

Lane eight – 53.032 metres

# MARKING AN ATHLETICS FIELD

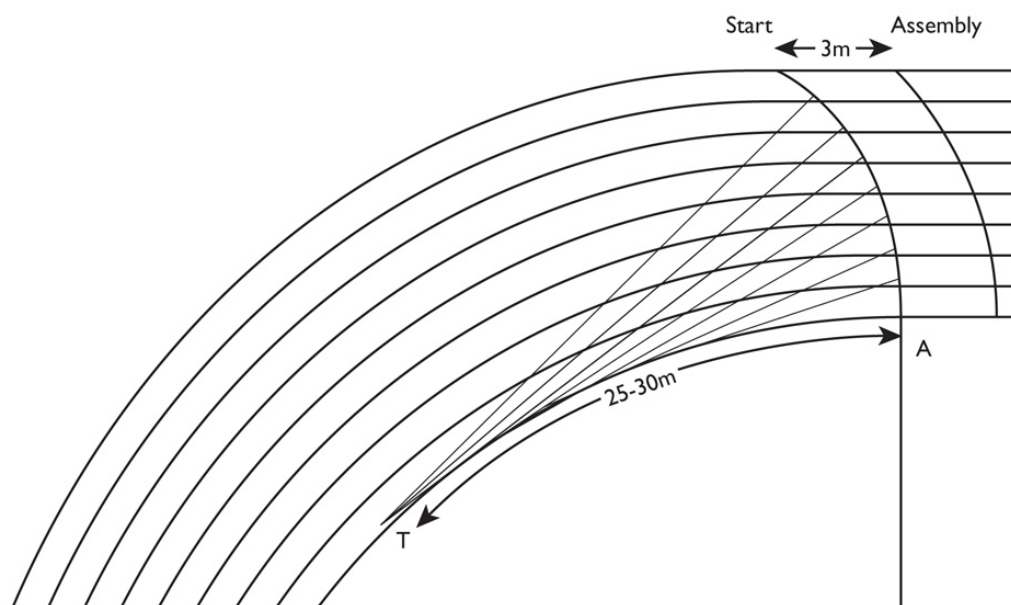


## 4.7 800-Metre Start

For international competitions, the 800-metre event is run from a staggered start and the runners stay in their lanes until the end of the first bend.

For competitions at most other levels, the event is run from a curved start and competitors may change lanes immediately. A curved start gives each competitor an equal distance to run around the first bend and allows more than eight competitors to compete in the same race.

To locate the curved start, lay out a tape for 30 metres from the start line in lane one around the first bend, laying it precisely 20 centimetres from the left-hand line marking lane one. Anchor the end of the tape at this point T, 30-metres from the start in lane one. Have an assistant take the other end of the tape, that was previously at the start mark and walk to the outside of lane eight. The curve the assistant has walked describes the start line. The idea is to provide each runner with the same distance to run to point T. As a rule of thumb, athletes in lane eight receive about 5 metres start over those in lane one.



# MARKING AN ATHLETICS FIELD



## 4.8 1500-Metre Start

An extension of the line AD through point D marks the start for lane one of the 1500 metres. The race is started from a curved start similar to that of an 800-metre start. As the 1500 start is at the beginning of the back straight a less marked curve will allow the athletes travel the same distance to the first bend at the end of the straight. A rule of thumb is the runner in lane eight receives about two-metre start over those in lane one.

## 4.9 3000-Metre Start

The start line of lane one for the 200 metres indicates the start for this event. It starts from a curved start which is produced in the same manner as the 800 metre curve start (see 4.7).

## 4.10 4 x 100-Metre Relay

The 4 x 100-metre relay requires extra markings to indicate the zones in which the baton must be passed from one runner to the next. Competitors pass the baton at 100-metre intervals but they are allowed a 'changeover zone' of ten metres on either side of the 100-metre point. In addition the receiver of the baton is given a ten metre 'acceleration zone' before the changeover zone.

The start for the 4 x 100-metre relay is the same start as for the 400-metre events. The first changeover is at the 300- metre point, not marked until now. Extend AD through point D and place a string across the lanes. From this line (string) measure forward within each lane the following distances. Remember that these measurements are made 20 centimetres from the left-hand edge of each lane in order to find the middle of each zone.

Lane two 3.519 metres

Lane three 7.352 metres

Lane four 11.185 metres

Lane five 15.017 metres

Lane six 18.850 metres

Lane seven 22.683 metres

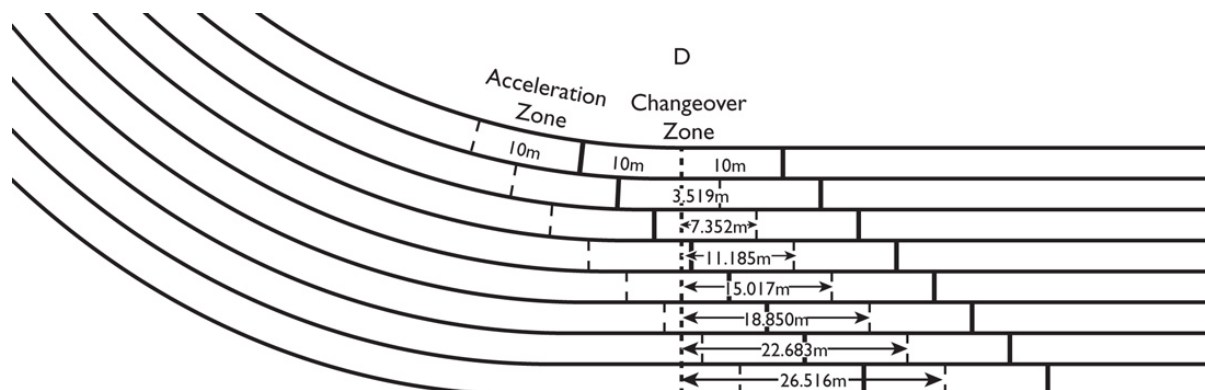
Lane eight 26.516 metres

These points indicate the centre points of the changeover zones and therefore need not be lined, but they may be marked. This can be done with a marker or peg placed in the ground.

Measure 10 metres along each lane either side of the marker or peg that has been placed in the ground and paint a yellow tick across each lane. These two lines form a 20-metre changeover zone.

Ten metres before the start of each changeover zone mark a further line to indicate the beginning of the acceleration zone. To reduce confusion, mark the line orange.

# MARKING AN ATHLETICS FIELD



The second changeover is at the 200-metre mark. The start lines in each lane for the 200-metre event are the centre points of the second changeover zone. The changeover zone boundaries and the start of the acceleration zones can be marked in the same way as for the first changeover.

The third changeover is at the 100-metre start. Once again, measure 15.61m back from an extension from line CB extending through point B. This is the centre point. Mark the changeover and acceleration zone boundaries as for the two previous changeover zones.

# MARKING AN ATHLETICS FIELD



## 4.11 4 x 400-Metre Relay

The 4 x 400-metre relay requires additional markings to enable the first runner to run in lanes for the entire 400 metres and the second leg runners to run in lanes until they exit the first bend. On entering the back straight, the second runners may move into the inside lane.

The start of this relay is the previously marked finish line. Thus the start line for lane one is already marked. Using the rear edge of the finish line, measure forward the following distances within each lane to produce the staggered starts.

Lane two 10.564 metres

Lane three 22.088 metres

Lane four 33.630 metres

Lane five 45.185 metres

Lane six 56.761 metres

Lane seven 68.355 metres

Lane eight 79.965 metres

The first changeover is at the finish line for lane one (after one lap) with the usual ten metres either side to form the changeover zone. There is no acceleration zone for the 4 x 400-metre relay. To accurately mark the centre of the changeover zone for the other lanes, measure forward the following distances. Remember that these measurements are made within each lane 20 centimetres from the left-hand edge of the lane. These points only represent the centre of the changeover zone and do not need to be lines, but do need to be marked. These are the same as a staggered 800m mark with 10m either way.

Lane two 3.526 metres

Lane three 7.384 metres

Lane four 11.260 metres

Lane five 15.151 metres

Lane six 19.061 metres

Lane seven 22.989 metres

Lane eight 26.933 metres

The measurements are in fact the start lines for the 4 x 100-metre relay. Measure ten metres along each lane either side of the centre marker and mark a blue tick across each lane. These two blue ticks form a 20-metre changeover zone.

As the second runners will move into the inside lanes after exiting from the first bend, the third and fourth changeovers are made using the changeover zone in lane one centred on the finish line.

## 4.12 Hurdles

There are several ways of handling hurdle races:

- The 100-metre track on the main straight may be used.
- Sometimes a special hurdle track can be marked among the field events inside the 400-metre track and the hurdles left in place for the whole meeting.

Further starting lines may need to be marked for conducting hurdle events of lengths; 80, 90 or 110 metres. The lines should be determined and marked in the same processes as outlined in previous sections.

# MARKING AN ATHLETICS FIELD

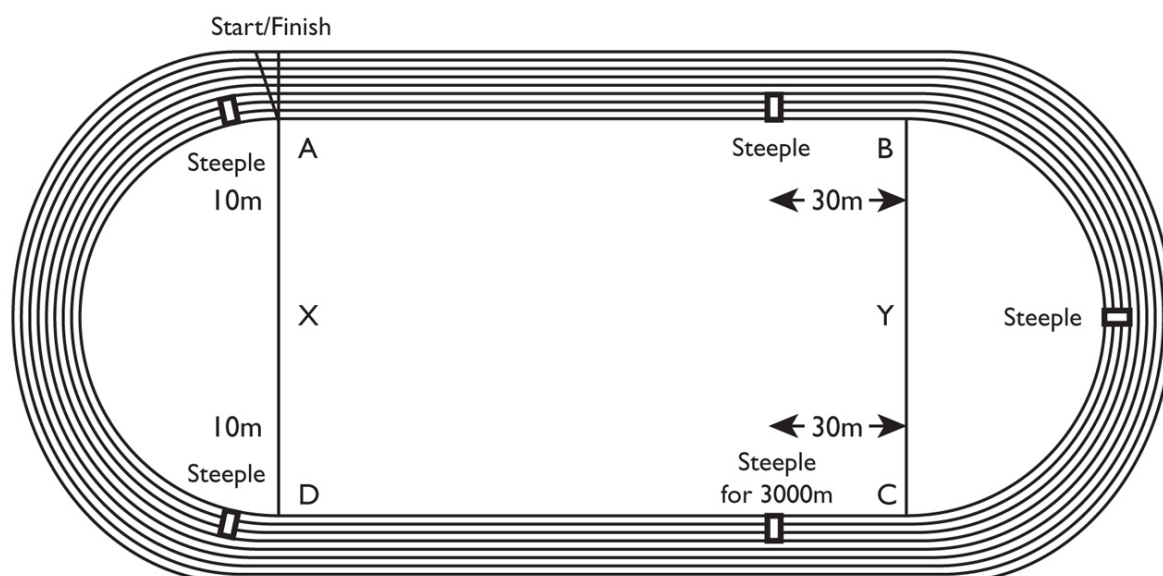


## 4.13 Steeplechase

The steeplechase is conducted over a distance of 2000 metres and normally consists of 18 hurdles and 5 water jumps. As few schools are in a position to be able to construct a water jump on the track, the event may be modified by having athletes clear 23 hurdles.

The 2000-metre steeplechase starts from the finish line and five hurdles are cleared on each lap at 80 metre intervals. The first hurdle is placed ten metres around the curve from the start/finish line (this hurdle is not cleared on the first lap). The hurdles should be 91.4 centimetres high with a tolerance of three millimetres above or below this height and should be at least 3.96 metres in width.

The water jumps where provided should be 3.66 metres in length and width including the hurdle. The hurdle should be firmly fixed in front of the water and be the same height as the others in the competition.



## 5. MARKING A 300-METRE TRACK

The actual job of marking can be daunting, but the following sections will outline the method of effectively marking a 300-metre track. The job can be made even easier if more than one person is helping with the job. A great help is to have the grass mowed three days before the field is to be marked.

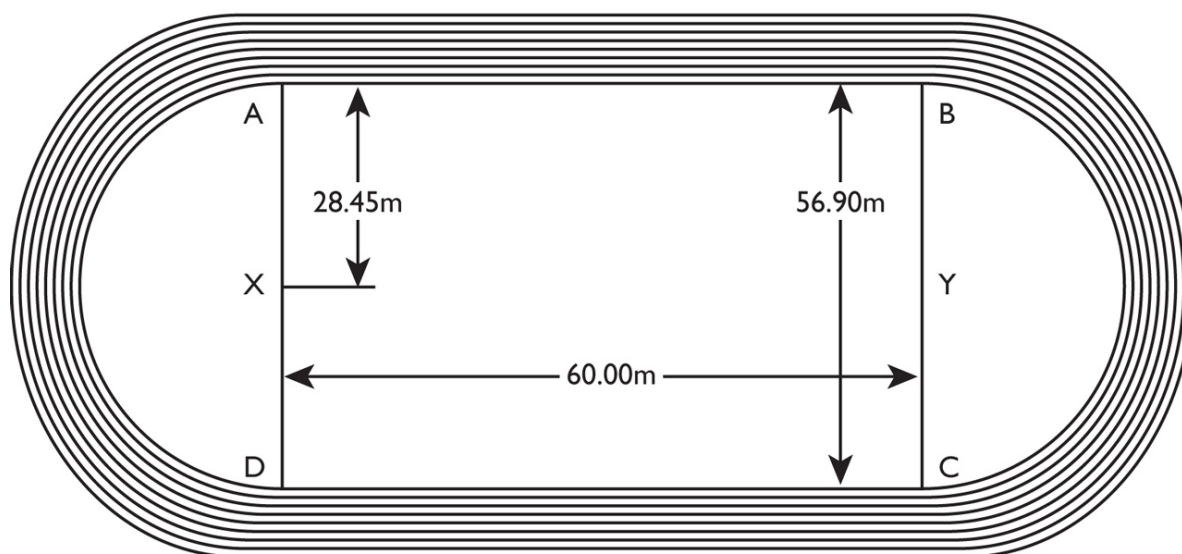
### 5.1 Locating a 300-Metre Track Within a Field

The following section will outline how to mark a 300-metre track with a straight of 60 metres on a field. The field or oval where the track is to be marked should have the dimensions of 137 metres by 77 metres. An eight-lane track is assumed but if space is restricted a six-lane track may be marked.

The track will have two straights with curves at each end. The finish line will be at the end of the main straight.

The first and most basic aim is to locate a base rectangle of dimensions 60 metres by 56.90 metres within the centre of the field. Once this rectangle has been located the track can easily be marked. It is essential then to take some time to accurately position this base rectangle.

The diagram below shows the dimension and the points for the base rectangle.



The points AB show the inside lane for the main straight. Points CD show the inside lane for the back straight. Four pegs should be placed at points A, B, C and D. Rope needs to be strung between each of the points to create the base rectangle. The two other most important points in the construction of the track are X and Y.

Point X is situated exactly midway between points A and D. X is 28.45 metres from A and 28.45 metres from D on the line AD.

Point Y is situated exactly midway between points B and C. Y is 28.45 metres from B and 28.45 metres from C on the line BC.



# MARKING AN ATHLETICS FIELD



Both points X and Y are to be marked with a peg. These are such important points that on some grounds these are permanently marked. These points are to be used to construct the curves and the lanes.

As the eight lanes of the track surround the rectangle and each lane is a standard 1.22 metres wide, the eight lanes take up a width of 9.76 metres. Points X and Y, therefore, need to be a minimum of 38.21 metres from either end of the oval or field.

As a last requirement, ensure that X and Y are 60 metres apart.

Make two lengths of rope that are both 40 metres long and have a spike at one end. From the spike, measure 28.45 metres and tie a coloured ribbon onto the string. Each additional 1.22 metres, tie another coloured ribbon until you have attached a total of 9 ribbons. To prevent the attached ribbons from moving, intertwine the ribbon in the string or rope strands.

Insert one spike in the ground at point X. From X stretch the string taut and walk in a semi circle around the perimeter of the field. As you do this watch the coloured ribbons – as you walk, they describe the inside edges of eight lanes and the outside line for the eighth lane. Repeat at the other end of the field, using Y as the centre of the semi-circle.

Thus by marking only two points in the ground we are able to trace eight lanes round the most difficult part of the track – the curves at either end. Now we have established the basic shape of the track we are in a position to start marking in lanes, staggered starts, changeover zones and the like.

## 5.2 Lining the Track

The field is now ready for the lines to be marked.

- Check that the ropes or strings marking any straight lines (such as AB, BC, CD and AD) are taut.
- Prepare the lining mixture, fill the lining machine and pressurise the contents.
- Start at point B and keeping the string marking at the right hand edge of the 5 centimetre wide line, mark BA.

The next step is to have an assistant tension the string with its nine ribbons that is still attached to X and walk slowly backwards round the curve to D. Follow the first ribbon out from X, keeping the ribbon as the guide for the right hand edge of the line. If the ribbon is hard to follow accurately, replace it with a spike or peg. Ensure that the rope or string is kept uniformly taut to produce an even semi-circle.

Continue down the back straight along the string marking DC. Then repeat the process for marking the curves using point Y and walk backwards to B to mark the curve CB.

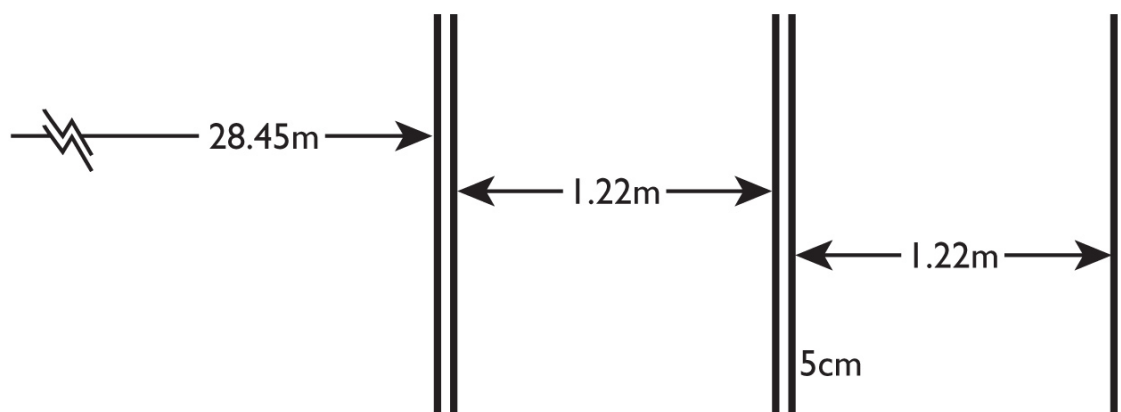


# MARKING AN ATHLETICS FIELD



To mark the next line, the inside of line of lane two, proceed as follows.

- Lay the string attached to X through point A out along the finish line.
- Lay the string attached to Y through point B along the 100-metre start line.
- Join the points indicated by the second ribbons on each string with a further 100 metre length to indicate the inside line of lane two.
- Ensure that the string is 1.22 metres from the nearer edge of the previously marked line.



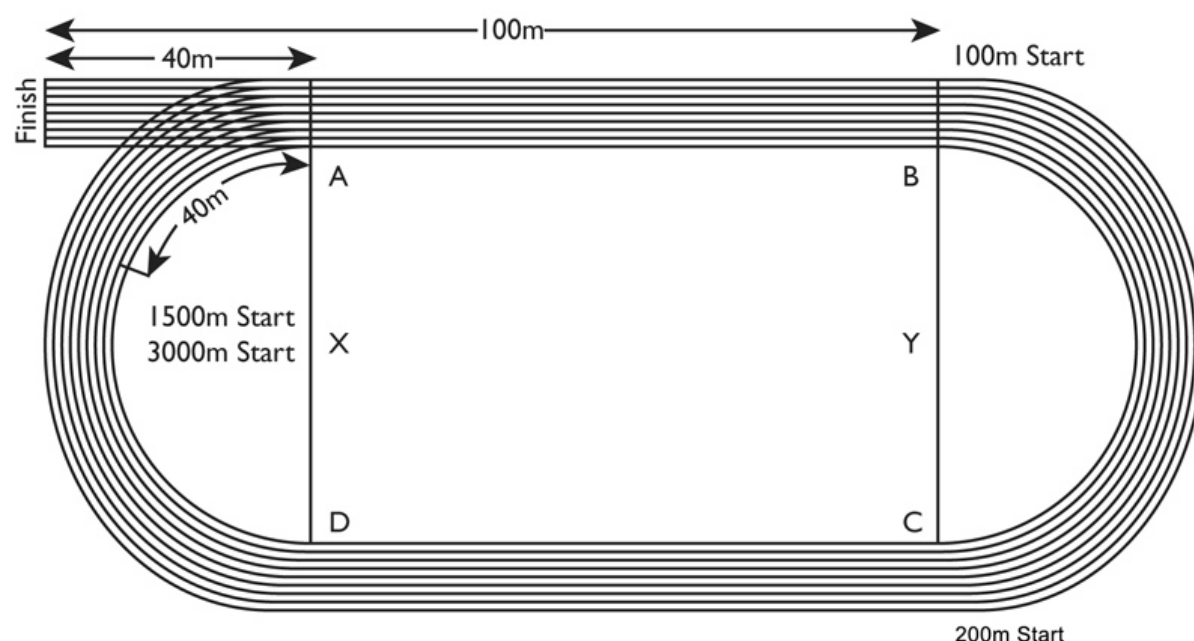
- Repeat for the back straight
- Start marking the line from B towards A, keeping all strings and ribbons as guides to the right hand edge of the line as you move anti-clockwise around the track.
- On reaching A, have an assistant walk with the string attached to X around the curve to D while you follow the second ribbon.
- Continue down the back straight and around the home bend back to B.
- Continue in this manner until you have marked the number of lanes required.
- The lanes for the 300-metre track are now completely marked.

# MARKING AN ATHLETICS FIELD



## 5.3 The Finish Line

The finish line on a 300-metre track is along a chute, which is a combination of the main straight. To determine where to place the finish line, simply continue the line between point B and point A for 40 metres. This mark will indicate a point 100 metres from point B. To complete the finish line, continue the line indicating the outside lane for a similar distance of 40 metres and connect the two points across the track with string. All lane lines should then be continued from point A to the finish line.



# MARKING AN ATHLETICS FIELD



## 5.4 100-Metre Start

Extend the line CB beyond B by 10 metres and mark it with string. This is the start line for the 100-metre event and is the centre of the third changeover zone for the 4 x 100-metre relay. This is also the start for the 400-metre event in lane one.

You have already completed the lanes for this event and all that is required is to line the start and finish, both of which are already marked with string.

Working from the inside edge of the track, mark both of the lines, once again keeping the string as a guide to the right-hand edge of the line.

## 5.5 200-Metre Start

To locate the 200-metre start, measure and mark a point ten metres along the string from point C in the direction of point D. This is the starting line for the runner in lane one and is the centre of the second changeover zone for the 4 x 100-metre relay. This is also the start for the 800-metre.

To mark the staggered lines for the 200-metres, firstly mark the line across lane one only, keeping the string as a guide to the right hand edge of the line.

Using the string as your starting point for each of the other lanes, measure forward the following distances within each lane to produce the staggered starts. When measuring the staggers, make the measurements along a line 20 centimetres from the left-hand edge of the lane facing the way the athletes run.

Lane two 3.83 metres

Lane three 7.67 metres

Lane four 11.50 metres

Lane five 15.33 metres

Lane six 19.16 metres

Lane seven 23.00 metres

Lane eight 26.83 metres

# MARKING AN ATHLETICS FIELD



## 5.6 400-Metre Start

The start of this event is the previously marked 100-metre start line. Thus the start line for lane one is already marked. Using the rear edge of this line as your starting point for each of the other lanes, measure forward the following distances within each lane to produce the staggered starts.

Lane two 7.67 metres

Lane three 15.33 metres

Lane four 23.00 metres

Lane five 30.66 metres

Lane six 38.33 metres

Lane seven 46.00 metres

Lane eight 53.66 metres

All staggered start lines will be in the straight and should be marked at right angles across each lane.

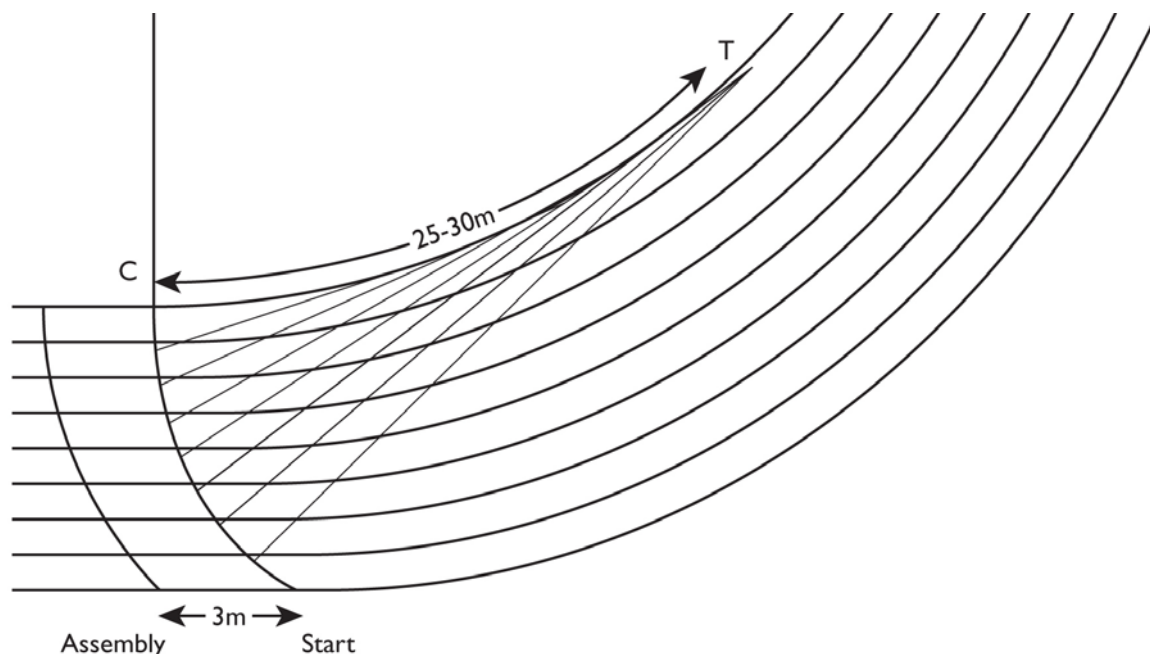
## 5.7 800-Metre Start

For international competitions, the 800-metre event is run from a staggered start and the runners stay in their lanes until the end of the first bend.

For competitions at most other levels, the event is run from a curved start and competitors may change lanes immediately. A curved start gives each competitor an equal distance to run around the first bend and allows more than eight competitors to compete in the same race.

To locate the curved start, lay out a tape for 30 metres from the start line of the 200-metre events in lane one around the first bend, laying it precisely 20 centimetres from the left-hand line marking lane one. Anchor the end of the tape at this point T, 30-metres from the start in lane one. Have an assistant take the other end of the tape, that was previously at the start mark and walk to the outside of lane eight. The curve the assistant has walked describes the start line. The idea is to provide each runner with the same distance to run to point T. As a rule of thumb, athletes in lane eight receive about 5 metres start over those in lane one.

# MARKING AN ATHLETICS FIELD



## 5.8 1500 and 3000-Metre Events

To locate the start lines for these two events, measure and mark a point 40 metres around the curve from point A in the direction of point D, measuring 30 centimetres from the inside edge of lane one. This is also the midpoint of the first changeover zone for the 4 x 100 metre relay in lane one.

The 1500 and 3000 metre events are started from a curve start, which is produced in the same manner as the 800-metre curve start.

## 5.9 4 x 100-Metre Relay

The start for the 4 x 100-metre relay is at the same start as the 400-metre event (i.e. point B). The first changeover is at the mark previously produced for the start of the 1500 and 3000-metre events in lane one, 40 metres around the bend from point A in the direction of D.

To find the midpoint of each changeover zone, extend the line AD beyond D by ten metres and mark with string. Using the rear edge of this line, measure back around the bend toward point A the following distances to produce the staggered starts. These measurements are made 20 centimetres from the inside edge of each lane.

Lane two 46.17 metres

Lane three 42.33 metres

Lane four 38.50 metres

Lane five 34.67 metres

Lane six 30.84 metres

Lane seven 27.00 metres

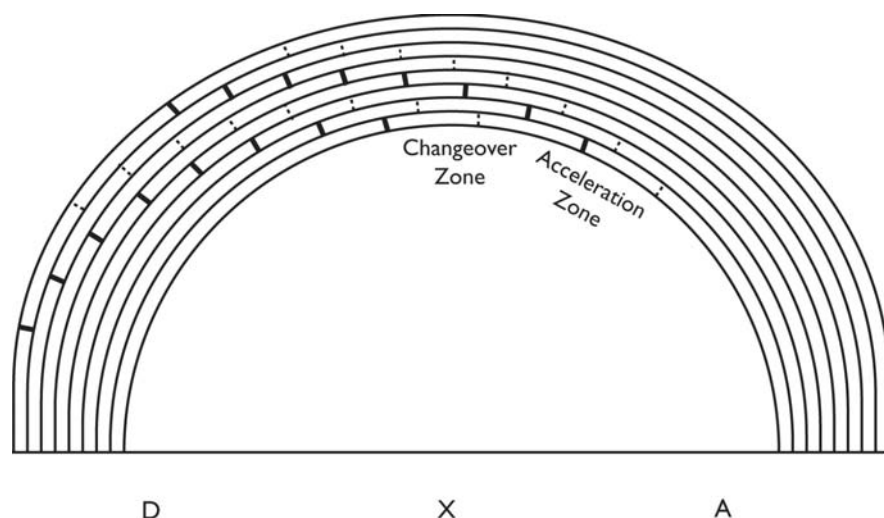
Lane eight 23.17 metres

# MARKING AN ATHLETICS FIELD

These points indicate the centre points of the changeover zones and therefore need not be lined, but they need to be marked. This can be done with a marker or peg placed in the ground.

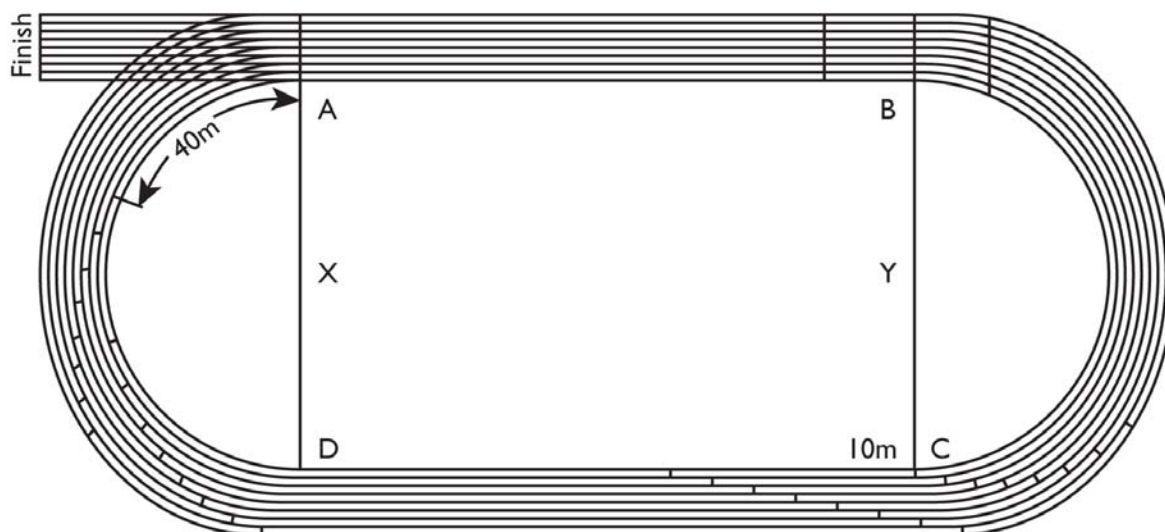
Measure 10 metres along each lane either side of the marker or peg that has been placed in the ground and paint a yellow tick across each lane. These two lines form a 20-metre changeover zone.

Ten metres before the start of each changeover zone mark a further line to indicate the beginning of the acceleration zone. To reduce confusion, mark the line orange.



The second changeover is at the 200-metre mark. The start lines in each lane for the 200-metre event are the centre points of the second changeover zone. The changeover zone boundaries and the start of the acceleration zones can be marked in the same way as for the first changeover.

The third changeover is at the 100-metre start. Once again, the start line in each lane is the centre point for the respective changeover zones. Mark the changeover and acceleration zone boundaries as for the two previous changeover zones.



# MARKING AN ATHLETICS FIELD



## 5.10 Hurdles

A 400-metre hurdle event is often included for older age groups but cannot be conducted on a 300-metre track because of the clash of hurdle markings on the front straight.

For most hurdle events, the 100-metre track on the main straight is usually used. Further starting lines will be necessary for the conducting of hurdle events over 80, 90 and 110-metres.

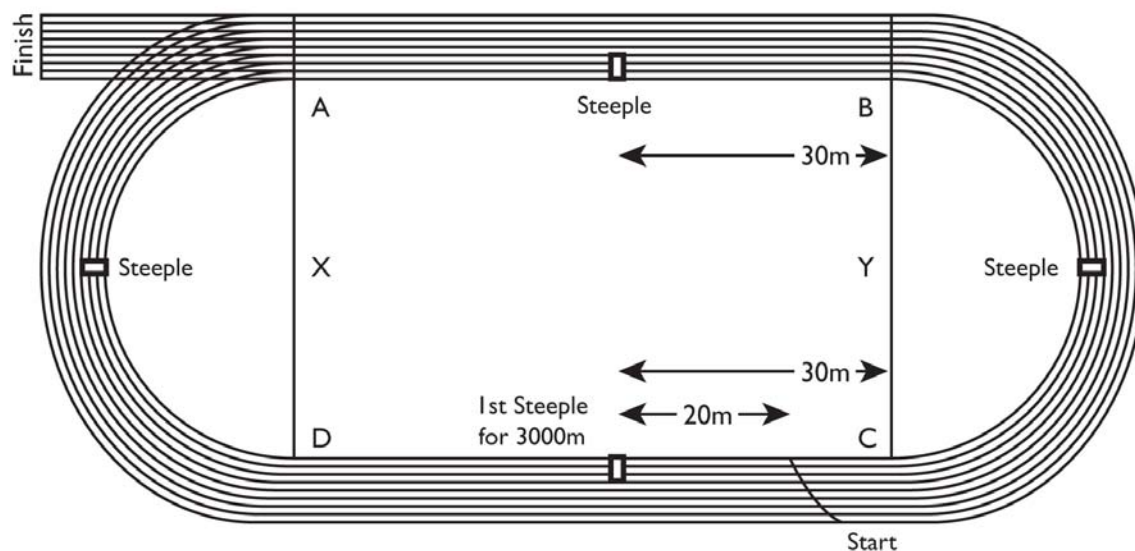
## 5.11 Steeplechase

The steeplechase is conducted over a distance of 2000 metres and normally consists of 18 hurdles and 5 water jumps. As few schools are in a position to be able to construct a water jump on the track, the event may be modified by having athletes clear 23 hurdles.

If a school wishes to conduct a steeplechase event, it would begin at the start for the 200-metre event to achieve a total race distance of 2000 metres over six laps and an extra 200 metres. The following is a suggested track layout for conducting such an event, but you may need to modify the specifications to suit your circumstances.

Using a 300-metre track, four hurdles will be placed at 75 metre intervals. As only 23 hurdles should be cleared in a steeplechase race, only one hurdle should be cleared on the first lap, four in each of the next five laps and two hurdles in the remaining 200 metres. The final hurdle cleared will be 70 metres from the finish line.

The hurdles should be 91.4 centimetres high with a tolerance of three millimetres above or below this height and should be at least 3.96 metres in width.



# MARKING AN ATHLETICS FIELD



## 6. COLOUR CODING

All start lines for all events and lane lines should be marked in white. The following colour markings are suggested for all other lines.

### 6.1 RELAYS

Zone	Marking	Colour
Acceleration	Line across lane	Orange
Start of Changeover – 4 x 100m	Tick across lane	Yellow
Finish of Changeover – 4 x 100m	Tick across lane	Yellow
Start of Changeover – 4 x 400m	Tick across lane	Blue
Finish of Changeover – 4 x 400m	Tick across lane	Blue
Start of 4 x 400m	White with 30cm blue in middle	White/Blue

### 6.2 HURDLES

Race Length	Marking	Colour
80 metres		Black
90 metres	The markings for hurdle placement are two rectangles painted on the side of each lane to indicate the position of the hurdles.	White
100 metres		Yellow
110 metres		Blue
400 metres		Green
Steeplechase		White (lane 1 & 3)



# MARKING AN ATHLETICS FIELD



## 7. FIELD EVENTS

### 7.1 Introduction

The marking of throwing circles, sectors and the like for the field events is the next task to be addressed. Usually all throwing events are directed towards the centre of the field, relevant officials being the only persons permitted in the centre.

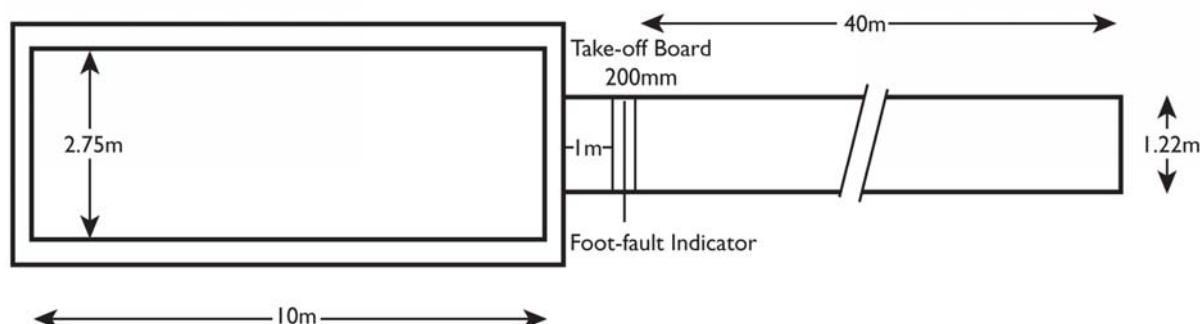
It is extremely unlikely that the javelin and shot will be accidentally thrown behind their respective circle and throwing zone, but the discus presents a real danger of a wild throw in the wrong direction. For this reason a safety cage is usually considered necessary unless a significant area around the circle is available as a safety area. For the same reason, the hammer throw is also a potentially dangerous event, although it is rare at secondary school level. If safety cages cannot be readily constructed, use cricket practice nets or soccer goals.

Whenever possible, avoid having competitors facing into the sun at crucial moments, such as just before take-off in the jumps and just before release in the throws. Position officials so that they are not looking into the sun as a javelin or discus are in the air.

### 7.2 Long Jump

The long jump is comprised of three major features: runway, take-off board and the landing area.

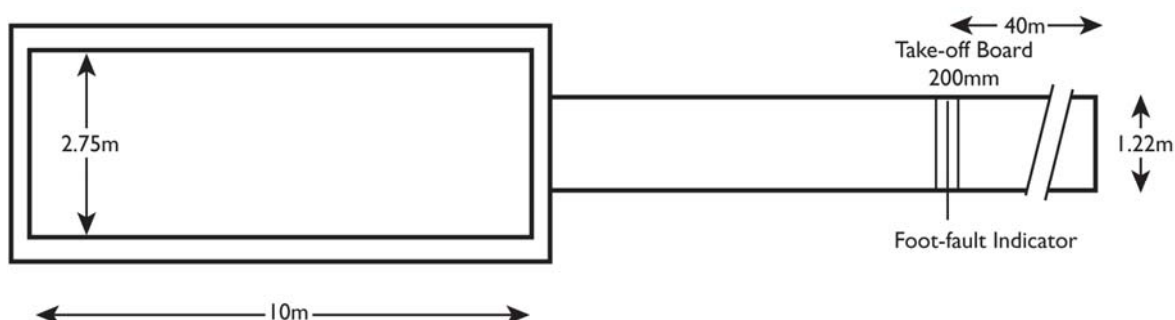
- The runway should be at least 1.22 metres wide and at least 40 metres long to the edge of the take-off board. Where conditions permit, this minimum length should be 45 metres. In school competitions this is not often marked, but it is recommended that it be marked to clearly identify the competition area.
- The take-off board is 1.22 metres long across the runway and placed between one and three metres from the nearest edge of the landing area. The board is 20 centimetres from front to back and about 10 centimetres deep, sunk so that the top surface is flush with the surface of the surrounding ground. Use hardwood for the take-off board if it is going to be permanent and it should be painted white to make it plainly visible to competitors. As each competitor must keep the take-off foot completely behind the front edge of the take-off board, an indicator board is often used immediately adjacent to the take-off board. The indicator board is the same length as the take-off board, 10 centimetres from front to back and is also flush with the surrounding surface.
- The landing area is a sand pit between 2.75 and 3 metres wide and approximately ten metres long, positioned between one and three metres from the take-off board. The surface of the sand must be level with the surface of the runway and take-off board. The runway must project centrally to the sand pit. The depth of the sand pit is not subject to official specification, but 50 centimetres would be sufficient to allow safe landings.



# MARKING AN ATHLETICS FIELD

## 7.3 Triple Jump

Specifications for the triple jump are the same as for the long jump, except that the runway must be lengthened between the take-off board and the landing area to ensure that jumpers land in the pit and not through it. It is recommended that the same runway and landing area be used as for the long jump, but with take-off boards at additional positions of one metre intervals, beginning at six metres from the pit to accommodate different abilities, with a maximum board of 13m.



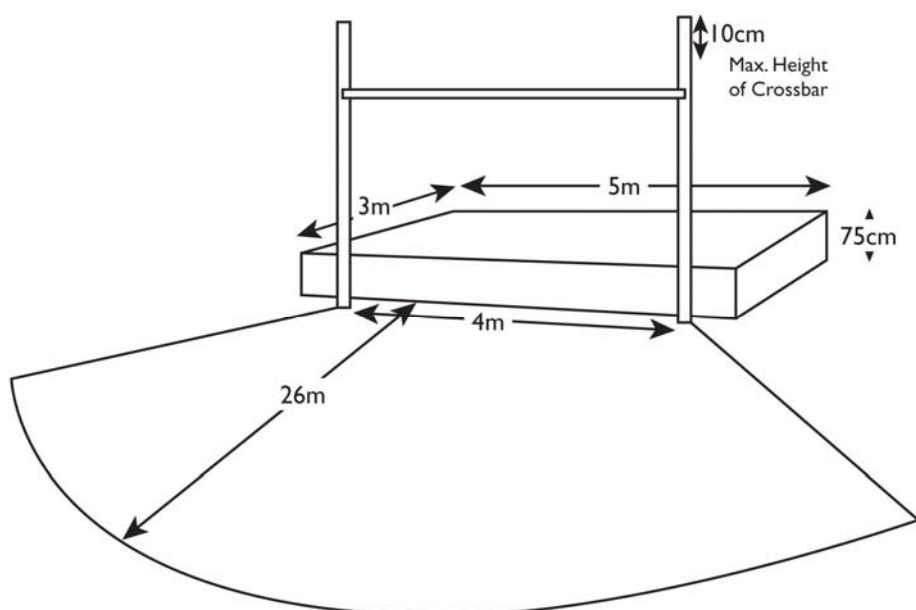
## 7.4 High Jump

The run up to the high jump is not usually marked, but a 25 metre fan-shaped radius will provide an adequate space regardless of the style of jump being attempted. Marking a run up area for the high jump will help to prevent non-competitors to remain out of the area. The angle of the fan is not critical and 130° - 140° is usually adequate.

The uprights holding the crossbar must be rigid and placed 4.00 – 4.04 metres apart. They must be placed on a flat plate or small tripod. A cross on the ground can be helpful to those doing the final setting out of the equipment.

Behind the bar, a five metre by three metre deeply padded landing area should be provided.

Position the jump so that the sun does not shine into the competitor's eyes. It is crucial that the sun does not hinder the athletes view as they approach the bar and they can accurately sight the top of the crossbar.



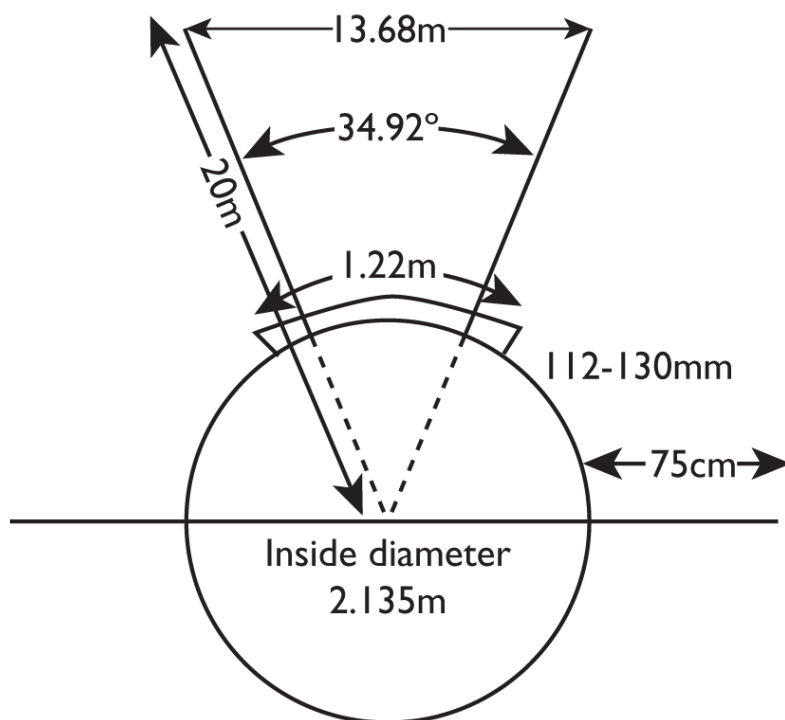
## MARKING AN ATHLETICS FIELD

## 7.6 Shot Put

The shot is put from a throwing circle of 2.135 metres inside diameter with a wooden stop-board at the front, which is 1.14 – 1.16 metres long, 10 centimetres high and 11.2-13 centimetres wide, conforming to the arc of the throwing circle. The surface of the circle ideally should be concrete, asphalt or some other firm, non-slip surface bounded by a metal ring of at least six millimetres and sunk level with the surface of the surrounding ground. The surface of the throwing circle should be 1.4 to 2.6 centimetres below the top edge of the metal ring. In most school competitions, these official throwing specifications may be difficult to conform to and a circle with an inside diameter of 2.135 metres on a hard ground with the above stop-board is acceptable.

To be a valid put, the shot must fall within the inner edges of two lines marking a sector of  $34.92^\circ$ . If these two lines were extended through the circle they would intersect at its centre. The sector may be accurately laid out by making the distance between the two sector lines exactly 12 metres at a point 20 metres from the centre of the circle along one of the sector lines. Mark a 5-centimetre line along those two resulting sector lines, which will be at the required  $34.92^\circ$  to each other. The throwing sector boundary lines should extend 20 metres from the circle and the two ends marked with a red flag.

The circle must also be divided in half by a line at right angles to the ideal throwing line. Two short lines projecting from the circumference usually indicate this line. The centre of the circle, halfway along the line, should be marked so that the tape measure can be pulled over this mark to accurately measure throws.

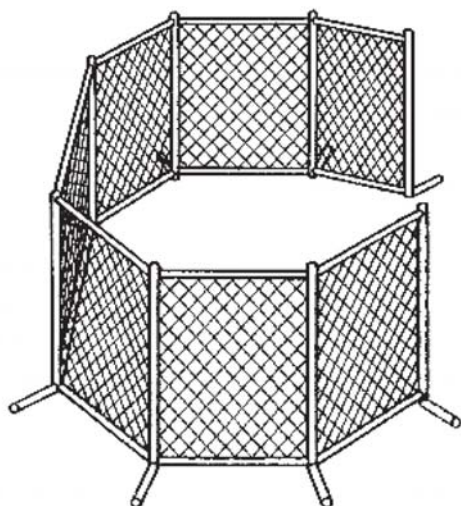
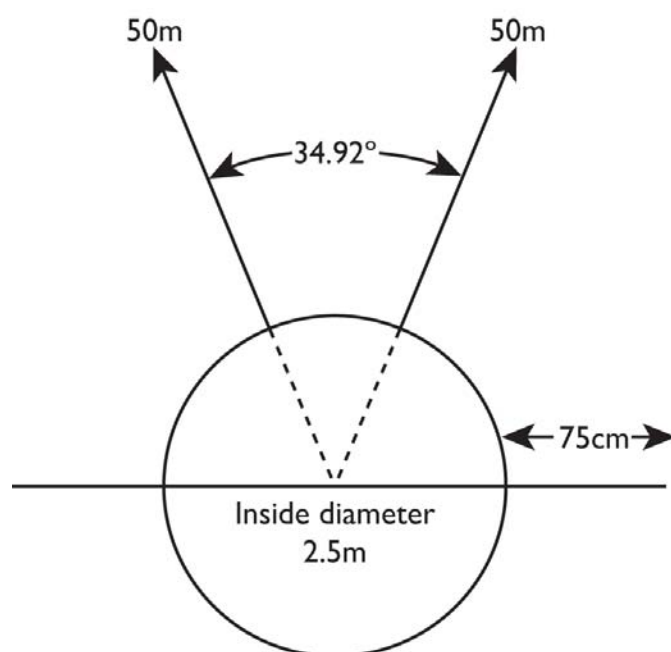


# MARKING AN ATHLETICS FIELD

## 7.7 Discus

The discus throwing circle should also be concrete rimmed with a metal band with an inside diameter of 2.5 metres. At secondary school level, a throwing circle of inside diameter 2.5 metres on a hard surface suffices. There is also a  $34.92^\circ$  throwing sector, which can be set out as described for the shot put except that the sector lines should be continued for 60 metres. There is no wooden stop board.

As there is always the risk that the discus may be released at the wrong moment, field specifications always include a netting cage at the back and sides of the discus circle. This can be moveable if the field is used for other purposes. It should be at least four metres high in seven panels suspended on uprights of galvanised iron piping on weighted feet. The U-shape of the whole structure should keep it standing with the help of a stay at each end. For a permanent structure the uprights should be embedded in concrete in the ground.



## MARKING AN ATHLETICS FIELD



## 7.8 Javelin

The javelin is thrown from an arc at the end of runway 30 – 36.5 metres long and four metres wide into a throwing sector of angle  $29^\circ$ . Where conditions permit, the minimum length of the runway should be 36.5 metres. Place the event in the middle of the field running lengthwise from left to right. Start the runway at the edge of the 400- metre track and mark with string an area of approximately 35 metres long and four metres wide.

From the throwing end of the runway measure back along the centre of the runway precisely eight metres. Mark this spot with a spike or a peg, as it forms the centre of the throwing arc at the end of the runway and of the sector. From this point tension an eight-metre length of string and scribe an arc at the end of the runway. Line this arc twice to produce a line of width seven centimetres. Where the arc meets the sides of the runway, extend the arc ends at right angles to the runway edges for 75 centimetres. Once again mark these lines twice to produce a line seven centimetres wide. All lines on the entire field are five centimetres except those that mark the throwing arc for the javelin.

To be a valid throw, the javelin must fall within the inner edges of two lines marking a sector of  $29^\circ$ . The sector may be accurately laid out by making the distance between the two sector lines 20 metres at a point 40 metres distance from the centre of the throwing arc along one of the sector lines. The sector lines should be continued for a minimum distance of 75 metres and their ends marked with red flags.

