

G.C. FOSTER COLLEGE OF PHYSICAL EDUCATION AND SPORTS

DIPLOMA IN COACHING

MAY 2017 EXAMINATIONS

COMMON PAPER

MATHEMATICS

YEAR 1: Coaching

TIME: 2 HOURS

INSTRUCTIONS: Attempt ALL questions showing ALL workings

DO NOT TURN OVER THIS PAGE UNTIL YOU ARE TOLD TO DO SO

Formula

$$\text{Area of circle} = \pi r^2$$

$$\text{Circumference of circle} = 2\pi r$$

$$\text{Average speed} = \text{distance} / \text{time}$$

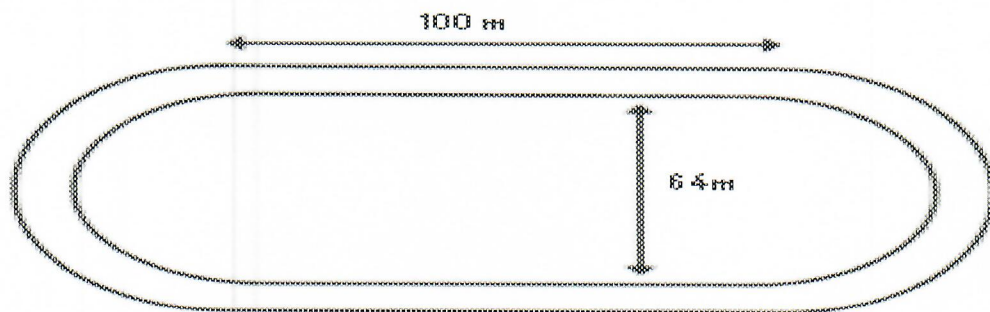
$$\text{Area of rectangle} = L \times W$$

1. Convert the following:
 - a. 34.17 meter to kilometer
 - b. .782 meter to centimeter
 - c. 25 kg to grams
 - d. 168 kilometers per hour to miles per hour
 - e. 245 miles per hour to kilometer per hour

[10 marks]

2. The diagram below represents a running track, which consist of two parallel line segment with a semicircle at each end. The distance between the outer and inner track is 5cm wide. Let the outer track be 'A' and the inner track be 'B'.

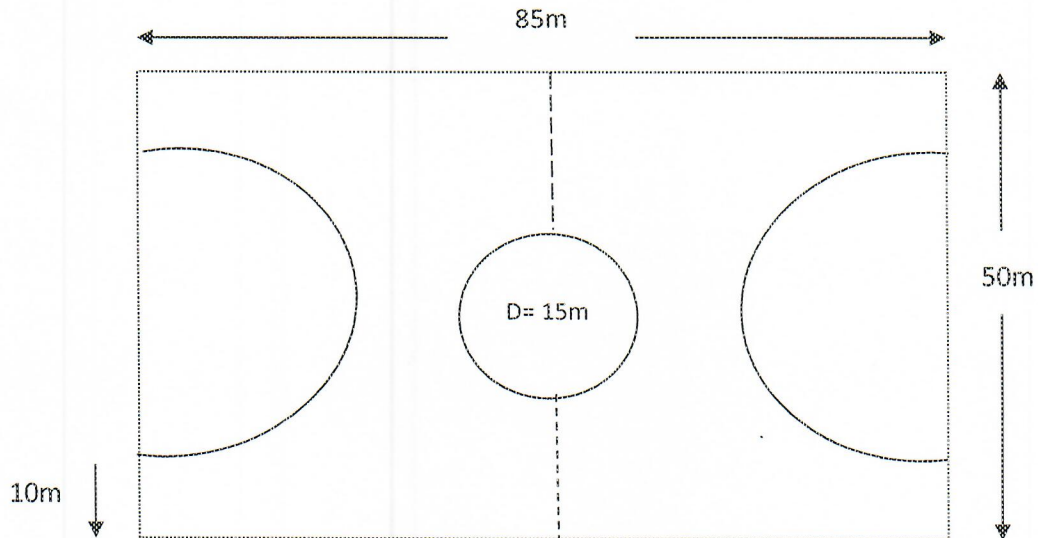
$$\pi = 3.142$$



- a) If Asafa runs on the perimeter of track 'A' what distance does he run, [4 marks]
 - b) If Usain runs on track 'B' what distance does he run? [4 marks]
 - c) What is the area of:
 - i. Track 'A' [3 marks]
 - ii. Track 'B' [3 marks]
4. What would be the speed that an athlete needs to run to complete a 100m in 9.58 seconds. [2 marks]
 - a. A bullet takes 30 seconds to travel a distance of 1500m. Find the average speed of the bullet. [2 marks]

3. The diagram below is a partial layout of a basketball court. If the two semi circles at the end and the circle in the middle were to be cut out, what area of the figure will remain?

[8 marks]



6. A coach bought 25 cricket balls for \$2500 and sold them for \$200 each, what was his:

i. Profit

ii. Profit percentage

[1+1 marks]

- 6a. If he had sold all the balls for \$2000, what would be his:

i. Loss

ii. Loss percentage

[1 + 1 marks]

END OF EXAM

