



ST. LAWRENCE HIGH SCHOOL



A JESUIT CHRISTIAN MINORITY INSTITUTION

CLASS 8

SUBJECT :Arithmetic **Work sheet24 answer key**

Marks:15 **Revision – Area & Perimeter of Circle**

Date:11.5.2020

Answer all the following questions(1×15=15)

1. If the radius of a circle is decreased by 50%, find the percentage decrease in its area.

- A) 55% B) 65%
C) 75% D) 85%

Answer: C)

75%

2. The area of the largest circle that can be drawn inside a rectangle with sides 18cm by 14cm is

- A) 49 B) 154
C) 378 D) 1078

Answer: B) 154

Explanation:

The diameter is equal to the shortest side of the rectangle.

So radius= $14/2 = 7\text{cm}$

3. A wire can be bent in the form of a circle of radius 56cm. If it is bent in the form of a square, then its area will be

- A) 7744 B) 8844
C) 5544 D) 4444

Answer: A)
7744

Explanation

:

length of wire
 $= 2\pi r = 2 \times$
 $(\frac{22}{7}) \times 56 =$
352 cm
side of the
square $= \frac{352}{4}$
 $= 88\text{cm}$
area of the
square $= 88 \times$
 $88 = 7744\text{sq cm}$

4. Find the ratio of the areas of the incircle and circumcircle of a square.

- A) 1:1 B) 1:2
C) 1:3 D) 1:4

Answer: B)
1:2

5. The diameter of the driving wheel of a bus is 140 cm. How many revolution, per minute must the wheel make in order to keep a speed of 66 kmph ?

- A) 150 B) 250

C) 350

D) 550

Answer: B)

250

Explanation

:

Circumference

= No. of

revolutions

Distance

covered

Distance to be

covered in 1

min. = (66

$\times 1000$)/60 m =

1100 m.

Circumference

of the wheel = 2

$\times (22/7) \times 0.70$

m = 4.4 m.

Number of

revolutions per

min.

= (1100/4.4) =

250.

6. Find the length of a rope by which a cow must be tethered in order that it may be able to graze an area of 9856 sq meters.

A) 56m

B) 16m

C) 14m

D) 76m

Answer: A)

56m

Explanation

:

clearly the cow
will graze a
circular field of
area 9856 sq m
and radius
equal to the
length of the
rope

7. The inner circumference of a circular race track, 14 m wide, is 440 m. Find radius of the outer circle

A) 44

B) 22

C) 33

D) 84

Answer: D) 84

Explanation:

Let inner radius be r
metres. Then, $2\pi r =$
 440 ; r
 $= 440 \times 7/22 \times 1/2 =$
 70 m.

Radius of outer
circle = $(70 + 14)$ m

C) 12

D) 11

Answer: A)

14

11. The no of revolutions a wheel of diameter 40cm makes in traveling a distance of 176m is

A) 240

B) 140

C) 40

D) 340

Answer: B)

140

Explanation

:

distance covered

in 1 revolution

$$= 2\pi r = 2 \times$$

$$(22/7) \times 20 =$$

$$880/7 \text{ cm}$$

required no of

revolutions =

$$17600 \times (7/880) =$$

$$140$$

12. A 3 by 4 rectangle is inscribed in circle. What is the circumference of the circle?

A) 2.5π

B) 3π

C) 5π

D) 4π

Answer: C)

5π

Explanation

:

Draw the diagram. The diagonal of the rectangle is the diameter of the circle. The diagonal is the hypotenuse of a 3,4,5 triangle and is therefore, 5.

Circumference
= π .diameter =
 5π

13.A man runs round a circular field of radius 50m at the speed of 12 km/hr. What is the time taken by the man to take twenty rounds of the field?

- A) $220/7$ min B) $110/7$ min
C) $90/7$ min D) $230/7$ min

Answer: A)
 $220/7$ min

14.A circular swimming pool is surrounded by a concrete wall 4ft wide. If the area of the concrete wall surrounding the pool is $11/25$ that of the pool, then the radius of the pool is?

- A) 10ft B) 20ft

C) 30ft

D) 40ft

Answer: B)

20ft

Explanation

:

let the radius of
the pool be Rft

Radius of the
pool including
the wall =
(R+4)ft

15.Four circular cardboard pieces, each of radius 7cm are placed in such a way that each piece touches two other pieces. The area of the space enclosed by the four pieces is

A) 12

B) 32

C) 42

D) 52

Answer: C) 42

Explanation:

required area = $[14 \times 14 - (4 \times \frac{1}{4} \times \frac{22}{7} \times 7 \times 7)] \text{sq.cm}$

= $196 - 154 = 42 \text{ sq.cm.}$

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