



Mensuration Questions for RRB NTPC Set-3 PDF

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Instructions

For the following questions answer them individually

Question 1

The height of a triangle is equal to the perimeter of a square whose diagonal is 14.14m and the base of the same triangle is equal to the side of the square whose area is 784 m². What is the area of the triangle? (in m²)

- A 504
- B 560
- C 478
- D 522
- E 496

Answer: B

Explanation:

We know that, diagonal = $1.414 \times \text{side}$

Here, diagonal = 14.14, side = 10 m

Height = Perimeter of square = $10 \times 4 = 40\text{m}$

Now, base = side of square with 784 m² area.

base = 28

Area of triangle = $.5 \times 28 \times 40 = 560 \text{ m}^2$

Option B is correct option.

Question 2

The diameter of a wheel is 49 m. How many revolutions will it make to cover a distance of 3200 m?

- A 17
- B 27
- C 24
- D 21
- E 18

Answer: D

Explanation:

Circumference of the wheel = $\pi \times \text{Diameter} = \left(\frac{22}{7}\right) \times 49 = 154$

Number of revolutions of the wheel = $3200/154 = 20.77 \sim 21$

The wheel will make around 21 revolutions.

Question 3

The area of a rectangle is equal to the area of a circle with circumference equal to 220 m. What is the length of the rectangle if its breadth is 50 m?

- A 56 m
- B 83 m
- C 77 m
- D 69 m

E None of these

Answer: C

Explanation:

$$\text{Circumference} = 2 \times (22/7) \times r = 220$$

$$\text{Hence, } r = 35$$

$$\text{Now, area of circle} = (22/7) \times 35 \times 35 = 3850$$

Area of rectangle is same as that of circle

$$\text{Area of rectangle} = 3850$$

$$\text{Length} \times \text{breadth} = 3850$$

$$\text{length} = 3850/50 = 77\text{m}$$

Therefore, option C is correct answer.

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Question 4

The perimeter of a square is one-fourth the perimeter of a rectangle. If the perimeter of the square is 44 cm and the length of the rectangle is 51 cm, what is the difference between the breadth of the rectangle and the side of the square?

A 30 cm

B 18 cm

C 26 cm

D 32 cm

E None of these

Answer: C

Explanation:

$$\text{Perimeter of rectangle} = 4(44) = 176 \text{ cm}$$

$$\text{Now, } 2 \times (\text{length} + \text{breadth}) = 176$$

$$2 \times (51 + \text{breadth}) = 176$$

$$51 + \text{breadth} = 88$$

$$\text{breadth} = 88 - 51 = 37$$

$$\text{Difference between side of square and breadth of rectangle} = 37 - 11 = 26 \text{ cm}$$

Therefore, the correct option is option C.

Question 5

What would be the area of a square whose diagonal measures 28 cm?

A 288 cm^2

B 514 cm^2

C 428 cm^2

D 392 cm^2

E None of these

Answer: D

Explanation:

We know that,

$$\text{Diagonal} = \text{side} \times 1.414$$

Therefore, side = $28/1.414 = 19.8$
Area of square = $19.8 * 19.8 = 392.04 \sim 392$
Therefore, the correct option is option D.

Question 6

The circumference of a circle is 748 metres. What will be its radius ?

- A 113 metres
- B 107 metres
- C 116 metres
- D 109 metres
- E None of these

Answer: E

Explanation:

As we know that circumference of a circle will be = $2\pi r = 2 \times \frac{22}{7} \times r$ (Where r is the radius of the circle)

Now parameter is given as 748 m.

Hence, its radius will be = $748 \times 7 \div 44 = 119$

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Question 7

If the area of the rectangle is 1248 square metres and its breadth is 32 metres, what is its perimeter ?

- A 142 metres
- B 128 metres
- C 148 metres
- D 124 metres
- E None of these

Answer: A

Explanation:

As we know that the area of a rectangle is $l \times b$ (Where l is length of rectangle and b is breadth of rectangle)

Which is 1248 square meter with breadth(b) 32 meters

So length will be = $\frac{1248}{32} = 39$

Hence, parameter will be equal to = $2(39+32) = 142$ m

Question 8

If the perimeter of a rectangle is 138 metres and the difference between the length and breadth is 7 metres, what is the area of the rectangle ?

- A 1216 square metres
- B 1147 square metres
- C 1184 square metres

D 1178 square metres

E None of these

Answer: D

Explanation:

Let the length be x and breadth be y .

$$x - y = 7$$

The perimeter of rectangle is 138

$$2x + 2y = 138$$

$$x + y = 69$$

$$2x = 76$$

$$x = 38$$

$$y = 31$$

Area of rectangle = $31 \times 38 = 1178$

Option D is correct.

Question 9

The area of a circle is 2464 square metres. What will its circumference be ?

A 132 metres

B 176 metres

C 231 metres

D 272 metres

E 109 metres

Answer: B

Explanation:

Area of circle = $(\frac{22}{7}) \times r \times r$

$$r^2 = (\frac{7}{22}) \times 2464$$

$$r^2 = 784$$

$$r = 28$$

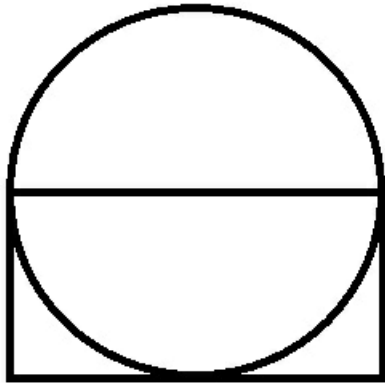
Circumference = $2 \times (\frac{22}{7}) \times 28 = 176$ metre

Option B is correct.

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Question 10

Area of the circle is 616 cm^2 . What is the area of the rectangle? (One side of the rectangle passes through the centre of the circle)



- A 786 cm^2
- B 196 cm^2
- C 392 cm^2
- D Cannot be determined
- E None of these

Answer: C

Explanation:

Area of the circle $= \pi d^2 / 4 = 616$

$d = 28$

The length of the rectangle is equal to diameter which is 28 and breadth is equal to radius which is 14

Area $= 28 \times 14 = 392$

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