Time Speed and Distance Questions for CMAT

Instructions
For the following questions answer them individually

Question 1

Three friends J, K and L jog around a circular stadium and complete one round in 12, 18 and 20 seconds respectively. In how many minutes will all the three meet again at the starting point

A 5

B 8

C 12

D 3

E None of these

Answer: D

Explanation:
All the three friends will meet at the starting point again after X seconds, such that X is the LCM of the times taken by J, K and L to complete one round.

=> LCM of 12, 18 and 20 = 180 seconds = 3 minutes.

Hence 3 minutes is the answer.

Question 2

The speed of a boat when travelling downstream is 32 Kms. / Hr. , whereas when travelling upstream it is 28 kms/hr. What is the speed of the boat in still water ?

A 27 Kms./Hr.

B 29 Kms./ Hr.

C 31 Kms./ Hr.

D Cannot be determined

E None of these

Answer: E

Explanation:
Let the speed of boat in still water be v and the speed of water be x.

Boat speed while going upstream = v-x = 28

Boat speed while going downstream = v+x = 32

=> 2v = 60 => v = 30

Hence, none of these is the correct answer.

Question 3

A pump can fill a tank with water in 2 hours. Because of a leak, it took $2\frac{1}{3}$ hours to fill the tank. The leak can drain all the water of the tank in

A $4\frac{1}{3}$ hours

B 7 hours

C 8 hours

D 14 hours

E None of these

Answer: D

Explanation:
Part of tank emptied in 1 hour by the
leak

$$\frac{1}{2} - \frac{2}{7} = \frac{1}{14}$$

The leak will empty the tank in 14 hours.

Question 4

If I walk at 4 km/h, I miss the bus by 10 min. If I walk at 5 km/h, I reach 5 min before the arrival of the bus. How far I walk to reach the bus stand?

A 5 km

B 5.5 km

C 6 km

D 7.5 km

E None of these

Answer: A

Explanation:
Suppose the required distance be d km/h

Then, d/4-d/5=15min=1/4 h ⇒d 1/20=1/4⇒d=5km

Question 5

The speed of a boat in still water is 15 km/hr and the rate of current is 3 km/hr. The distance travelled down steam in 12 minutes is:

A 3.3 km

B 2.9 km

C 2.4 km

D 3.6 km

E None of these

Answer: D

Explanation:
Speed downstream = (15 + 3) kmph = 18 kmph.

Distance traveled =(18×12/60)km = 3.6 km.

Question 6

An express train travelled at an average speed of 75 km/h stopping for 5 min every 125 km. How long did it take to reach its destination 375 km from the starting point?

A 6 h 30 min

B 4 h 45 min

C 3 h 15 min

D 5 h 10 min

E None of these

Answer: D

Explanation:
Time taken to cover 375 km = (375/75)h = 5h

Number of stoppages = 375/125-1 = 2

Total time to stoppages = (5 × 2) min = 10 min

Hence, total time taken = 5 h 10 min

Question 7

A boat's speed with the current is 15 kmph and the boat's speed against the current is 5 kmph. What is the speed of the current?

A 15 kmph

B 10 kmph

C 5 kmph

D 20 kmph

E None of the above

Answer: C

Explanation:
With the current => downstream
Against the current => upstream
Let the speed of the boat be 's' and the speed of the river be 'r'.
So, s - r = 5 and s + r = 15
=>2s = 20 => s = 10 and r = 5 kmph
Speed of the current = 5 kmph

Question 8

A 400 meter long train crosses a man who is travelling in opposite direction with a speed of 10 kmph in 4 seconds. Find the speed of the train (in km/h)?

A 250

B 350

C 270

D 380

E 320

Answer: B

Explanation:
Let the speed of the train be x kmph.
Speed of the man = 10 kmph

Relative speed = (x+10) kmph

$$(x+10) \times \frac{4}{60} \times \frac{400}{60} = 1000$$

$$(x+10) = 360$$

$$x = 350$$

Hence, Speed of the train = 350 kmph.

Question 9

The average speed of a bus is 8 times the average speed of a bike. The bike covers a distance of 186 km in 3 hours. How much distance will the bus cover in 10 hours ?

A 4069 km

B 4096 km

C 4960 km

D 4690 km

E None of these

Answer: C

Explanation:
Let x be the speed of bike and y be the speed of bus.

y=8x

Also, bike covers 186 kilometers of distance in 3 hours

Therefore, x = 186/3 = 62km/hr

Now, y = 8x = 496km/hr

Distance covered by bus in 10 hours with this speed = 4960 km/hr

Question 10

A 210 m long train takes 6 s to cross a man running at 9 km/h in a direction opposite to that of the train. What is the speed of the train? (in km/h)

A 127

B 121

C 117

D 108

E 111

Answer: C

Explanation:
Speed of train = x

Relative speed = x + 9(5/18) = x + 2.5

Speed = 210/6 = 35m/s

x + 2.5 = 35 => x = 32.5 m/s = 32.5 * (18/5) = 6.5 * 18 = 117 kmph

Question 11

A truck covers a distance of 640 km in 10 h. A car covers the same distance in 8 h. What is the respective ratio between the speed of the truck and the car?

A 3: 4

B 1: 2

C 5: 6

D 6: 7

E None of these

Answer: E

Explanation:
We know the formula of speed which is Speed = Distance/Time

Speed of a truck = 640/10 = 64

Speed of a car = 640/8 = 80

Ratio of speed of truck and car = 64:80 = 4:5

Question 12

Faisal walks 325 m every day .How many kilometers will he walk in four weeks?

A 6.2

B 9.1

C 8.6

D 7.8

E None of these

Answer: B

Explanation:
Number of days in 4 weeks = 4*7 = 28

Since Faisal walks 325 m every day

Distance walked in 28 days = 325*28 = 9100m

9100m = 9.1km

Question 13

A 280 m long train crosses a platform thrice its length in 6 min 40 s. What is the speed of the train?

A 3.2 m/s

B 1.4 m/s

C 2.8 m/s

D Cannot be determined

E None of these

Answer: C

Explanation:
Length of the train = 280m

Length of the platform = (280*3)m

Since the train passes the platform completely

Total disttance travelled by train = 280+(3*280) = 4*280

Time take = 6min 40s = 360+40 = 400s

Speed = 4*280/400 = 2.8 m/s

Question 14

Harish, Dilip and Asha start running around a circular stadium and complete one round in 27 s, 9 s and 36 s respectively. In how much time will they meet again at the same point?

A 1 min 48 s

B 2 min 36 s

C 3 min 11 s

D 2 min 25 s

E None of these

Answer: A

Explanation:
Least common multipke of 36,27 and 9 is 108.
Hence Harish, Dilip and Asha will meet at 108 second i.e 1 minute and 48 seconds.
Therefore, the correct option is option A.

Question 15

The radius of a circular field is equal to the side of a square field whose perimeter is 784 feet. What is the area of the circular field?

A 107914 sq ft

B 120736 sq ft

C 107362 sq ft

D 127306 sq ft

E None of these

Answer: B

Explanation:
Perimeter of square field = 784 ft.

Radius of circular field = Side of square field = $\frac{784}{4}$ = 196 ft.

Area of circular field = $\pi r^2 = \frac{22}{7} \times 196 \times 196 = 120736$ sq ft

Question 16

Three friends J K and L jog around a circular stadium and complete one round in 12, 18 and 20 seconds respectively In how many minutes will all the three meet again at the starting point ?

A 5

B 8

C 12

D 3

E None of these

Answer: D

Explanation:
LCM of 12, 18 and 20 = 180

Hence, they'll meet again after 180 seconds => 3 minutes.

Question 17

The speed of boat when travelling downstream is 32 km/hr whereas when travelling upstream it is 28 km/hr. What is the speed of the boat in still water ?

A 27 km/hr

B 29 km/hr

C 31 km/hr

D Cannot be determined

E None of these

Answer: E

Explanation:
Let the speed of boat be b and that of water be w.

Hence, b+w = 32

and b-w = 28

Adding both eqns together, 2b = 60

b=30km/hr

Question 18

A 200 meter long train crosses a platform double its length in 36 seconds What is the speed of train in kmph ?

A 60

B 48

C 64

D 66

E None of these

Answer: A

Explanation:
Length of platform = 200*2 = 400
The actual distance covered by train in 36 seconds = Length of platform + Length of train = 400+200= 600
Speed of the train = 600/36 = 16.67m/s = 60km/hr
Hence, ther correct option is A.

Question 19

Ajay walked 2m towards east, took a right turn and walked 7m. He then took a left turn and walked 5m before taking a left turn and walking 7m. He then took a final right turn and walked 1 m before stopping. How far is Ajay from the starting point?

A 8m

B 7m

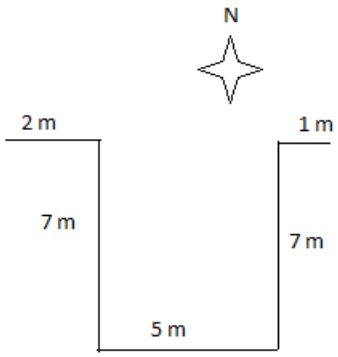
C 6m

D 5m

E 9m

Answer: A

Explanation:
For ease, we represent this in diagrammatic form.



Now distance of Ajay from starting point = 2+5+1 = 8 metres.
Hence, option A is correct.

Question 20

A truck covers a distance of 360 Km in 8 h. A car covers the same distance in 6 h What is the respective ratio between the speed of the truck and the car ?

A 3:5

B 3:4

C 1:2

D 4:5

E None of these

Answer: B

Explanation:
Speed of the truck = 360/8 = 45 km/hr
Now,
Speed of the car = 360/6 = 60km/hr
Ratio of speed of truck and car = 45/60 = 3:4
Therefore, option B is correct.