Answers

(1) 3 hours and 45 minutes

Step 1

The train started at 12:15 PM, or 12:15 hours, and reached at 4:00 PM, or 16:00 hours.

Step 2

The time of journey is 16:00 - 12:15 = 03:45 hours.

Step 3

Therefore, the train takes 3 hours and 45 minutes to reach its destination.

(2) 07:30

Step 1

We may observe here that the time is decreasing by 10 minutes in every consecutive term of the given series.

Step 2

Since the time before the missing term is 07:40, the missing term can be calculated by adding 10 minutes to 07:40.

Step 3

This means, the missing time in the above pattern will be **07:30**.

(3) 2:15 AM

Step 1

Andrew picks up her sister Diana at 04:00 AM, or 04:00 hours.

Step 2

The time taken by Andrew to reach to her sister's house = 1 hours and 45 minutes, or 01:45 hours.

Step 3

Therefore, Andrew started from her house at 04:00 - 01:45 = 02:15 hours or 2:15 AM.

(4) hour

Step 1

As we know, 1 hour = 60 minutes = 3600 seconds.

So, in 1 hour the hour hand completes $\dfrac{1}{12}$ of the circle, the minute hand completes one full

circle and the second hand completes 60 full circles. On comparing, we find that the hour hand covers the minimum distance in a given time interval.

Step 2

So, we can say that the **hour** hand moves with the slowest speed.

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(5) 19000

Step 1

We know that there are 60 minutes in one hour. Sandra drives 57 km in one hour, or 60 minutes. Let us first find out the distance travelled by her in one minute.

Step 2

She travels 57 km in 60 minutes, so she will travel $\dfrac{57}{60}$ km in one minute.

Step 3

Since, we also know that there are 1000 meters in 1 km, so 57 × 1000, or 57000 meters in 57 km.

Step 4

So, she travels $\dfrac{57000}{60}$ meters in one minute.

Step 5

If she travels $\dfrac{57000}{60}$ meters in one minute, she will travel $\dfrac{57000}{60}$ × 20, or 19000 meters in 20

minutes.

(6) 45

> **Step 1**
>
> We know, quarter past 8 = 8:15 hours
> Here, we have to calculate the time the clock will take to strike 9.
>
> **Step 2**
>
> Hence, we have to subtract 8:15 hours from 9:00 hours.
>
> ```
>    9:00
> −  8:15
>   ─────
>    0:45
>   ─────
> ```
>
> So, it will take **45** minutes for the clock to strike 9.

(7) A)   10   30   PM

> **Step 1**
>
> The time given is 12:00 AM, or 00:00 hours.
>
> **Step 2**
>
> We have to find the time before 1 hour 30 minutes, or 01:30 hours.
>
> **Step 3**
>
> Now subtracting the time, we get 00:00 - 01:30 = 22:30 hours or 10:30 PM.
>
> **Step 4**
>
> This means that 1 hour and 30 minutes before 12:00 AM will be 10:30 PM.

B)   1   10   AM

> **Step 1**
>
> The time given is 10:00 PM, or 22:00 hours.
>
> **Step 2**
>
> We have to find the time after 3 hours 10 minutes, or 03:10 hours.
>
> **Step 3**
>
> Now adding the time, we get 22:00 + 03:10 = 01:10 hours or 1:10 AM.
>
> **Step 4**
>
> This means that 3 hours and 10 minutes after 10:00 PM will be 1:10 AM.

(8) A) 310

Step 1

We know that there are 24 hours in one day, which means there are 12 × 24 = 288 hours in 12 days.

Step 2

So, 12 days and 22 hours = 288 + 22 = 310 hours

B) 576

Step 1

We know that there are 24 hours in one day, which means there are 23 × 24 = 552 hours in 23 days.

Step 2

So, 23 days and 24 hours = 552 + 24 = 576 hours

(9) A) 720

We know that there are 60 minutes in 1 hour. Which means that in 12 hours there will be 12 × 60 = 720 minutes.

B) 840

We know that there are 60 minutes in 1 hour. Which means that in 14 hours there will be 14 × 60 = 840 minutes.

(10) A) 2:15

We know that 15 minutes past 2 means 15 minutes more than 2, which can also be written as 2:15.

B) 11:25

We know that 25 minutes past 11 means 25 minutes more than 11, which can also be written as 11:25.

C) 5:55

> We know that 5 minutes to 6 means 5 minutes less than 6, which can also be written as 5:55.

D) 8:10

> We know that 10 minutes past 8 means 10 minutes more than 8, which can also be written as 8:10.

(11) 8 15 AM

> **Step 1**
>
> Andreea started at 03:45 AM, or 03:45 hours from her home town, and will reach after 4 hours and 30 minutes or 04:30 hours.
>
> **Step 2**
>
> She will reach at 03:45 + 04:30 = 08:15 hours or 8:15 AM.

(12) A) 16 22

> **Step 1**
>
> As we know that there are 24 hours in a day, so to find the number of days in 406 hours we will have to divide it by 24.
>
> **Step 2**
>
> Dividing 406 by 24 we get a quotient of 16 and a remainder of 22.
> This means that the answer to the above question is 16 days and 22 hours.

B) 20 16

> **Step 1**
>
> As we know that there are 24 hours in a day, so to find the number of days in 496 hours we will have to divide it by 24.
>
> **Step 2**
>
> Dividing 496 by 24 we get a quotient of 20 and a remainder of 16.
> This means that the answer to the above question is 20 days and 16 hours.

(13) A)   20   7

Step 1

First of all let's look at the position of the hour hand. It points between 6 and 7. So the time is between 6 o'clock to 7 o'clock.

Step 2

Now, the minute hand is pointing at 8, which means it has travelled 8 × 5 = 40 minutes, or 60 - 40 = 20 minutes less than 60.

Step 3

We can say that the clock is showing 20 minutes to 7.

B)   30   8

Step 1

First of all let's look at the position of the hour hand. It points between 8 and 9. So the time is between 8 o'clock to 9 o'clock.

Step 2

Now, the minute hand is pointing at 6, which means it has travelled 6 × 5 = 30 minutes.

Step 3

We can say that the clock is showing 30 minutes past 8.

C)   15   5

Step 1

First of all let's look at the position of the hour hand. It points between 4 and 5. So the time is between 4 o'clock to 5 o'clock.

Step 2

Now, the minute hand is pointing at 9, which means it has travelled 9 × 5 = 45 minutes, or 60 - 45 = 15 minutes less than 60.

Step 3

We can say that the clock is showing 15 minutes to 5.

D) 20 3

Step 1

First of all let's look at the position of the hour hand. It points between 2 and 3. So the time is between 2 o'clock to 3 o'clock.

Step 2

Now, the minute hand is pointing at 8, which means it has travelled 8 × 5 = 40 minutes, or 60 - 40 = 20 minutes less than 60.

Step 3

We can say that the clock is showing 20 minutes to 3.

(14) A) 8 50 AM

Step 1

The given time is 8 hours and 50 minutes. This is before 12 noon. So, we should write AM in the third blank.

Step 2

So, we can say that the time is 08:50 AM.

B) 4 35 AM

Step 1

The given time is 4 hours and 35 minutes. This is before 12 noon. So, we should write AM in the third blank.

Step 2

So, we can say that the time is 04:35 AM.

C) | 6 | 25 | PM |

Step 1

The given time is 18 hours and 25 minutes. This is after 12 noon. So, we should write PM in the third blank.

Step 2

We will need to subtract 12 hours from 18 hours to find the time in 12 hours format. We have, 18 - 12 = 6

Step 3

So, the time is 06:25 PM.

D) | 10 | 25 | AM |

Step 1

The given time is 10 hours and 25 minutes. This is before 12 noon. So, we should write AM in the third blank.

Step 2

So, we can say that the time is 10:25 AM.

(15) | 12 | 35 | PM |

Step 1

Ivan reached at 03:40 PM, or at 15:40 hours.

Step 2

Kostas reached 3 hours 5 minutes , or 03:05 hours before Ivan.

Step 3

So, the time at which Kostas reached the meeting is 15:40 - 03:05 = 12:35 hours or 12:35 PM.