Chapter 13 Time

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Mindmap – Simple Notes

- Units of Time
  • 1 minute = 60 seconds
  • 1 hour = 60 minutes
  • 1 day = 24 hours
  • 1 week = 7 days
  • 1 month ≈ 30 days (varies)
  • 1 year = 12 months = 365 days (366 in leap year)
- Reading Clocks
  • Analog clock: hour hand, minute hand, second hand
  • Digital clock: shows time in numbers (e.g., 09:30)
- AM and PM
  • AM: 12 midnight to 12 noon
  • PM: 12 noon to 12 midnight
- Calendar
  • Months with 31 days: Jan, Mar, May, Jul, Aug, Oct, Dec
  • Months with 30 days: Apr, Jun, Sep, Nov
  • February: 28 days (29 in leap year)
- Leap Year
  • Occurs every 4 years
  • Divisible by 4 (except century years not divisible by 400)
- Elapsed Time
  • Time between two events
  • Example: From 10:15 AM to 2:45 PM → 4 hours 30 minutes
- Conversion of Time
  • Hours to minutes: ×60
  • Minutes to seconds: ×60
  • Days to hours: ×24

Notes with Relevant Examples

1. Reading Time
   - Example: If the hour hand is at 3 and minute hand at 6, time is 3:30.
2. AM/PM Usage
   - Example: School starts at 8:00 AM; dinner is at 7:30 PM.

3. Adding Time
    - Example: Add 2 hours 45 minutes to 3:20 PM
      → 3:20 PM + 2h = 5:20 PM; +45 min = 6:05 PM
4. Subtracting Time
    - Example: Subtract 1 hour 20 minutes from 10:10 AM
      → 10:10 – 1h = 9:10 AM; –20 min = 8:50 AM
5. Elapsed Time Calculation
    - Example: A movie starts at 4:15 PM and ends at 6:40 PM
      → From 4:15 to 6:15 = 2 hours; 6:15 to 6:40 = 25 min
      → Total = 2 hours 25 minutes
6. Leap Year Identification
    - Example: 2024 ÷ 4 = 506 → no remainder → leap year
      1900 ÷ 400 = 4.75 → not divisible → not leap year
7. Days in a Month
    - Example: How many days from July 15 to August 10?
      → July has 31 days → 31 – 15 = 16 days (July) + 10 days (Aug) = 26 days

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Unit Test

1. How many seconds are there in 5 minutes?
2. Write 3:45 PM in 24-hour format.
3. What is the time 2 hours 30 minutes after 11:20 AM?
4. Is the year 2026 a leap year? Give reason.
5. How many days are there in the month of November?
6. A train leaves at 9:15 AM and reaches at 2:40 PM. Find the travel time.
7. Convert 145 minutes into hours and minutes.
8. How many hours are there in 3 days?
9. If today is Monday, what day will it be after 10 days?
10. Subtract 1 hour 45 minutes from 5:30 PM.

Worksheets

Worksheet 1: Basic Concepts

1. Fill in the blanks:
   a) 1 hour = _____ minutes
   b) 1 day = _____ hours
   c) There are _____ months in a year

2. Write the following times in words:
   a) 7:15 AM
   b) 11:50 PM
3. How many days are there in a leap year?

Worksheet 2: Time Calculations

1. Add: 3 hours 25 minutes + 2 hours 40 minutes
2. Subtract: 6:10 PM – 2 hours 35 minutes
3. A bus starts at 8:00 AM and takes 4 hours 20 minutes to reach its destination. At what time does it arrive?

Worksheet 3: Calendar & Dates

1. How many days are there from March 10 to March 25?
2. Name the months that have 31 days.
3. If February 1 is a Sunday, what day is February 14?

Solutions – Unit Test

1. 5 × 60 = 300 seconds
2. 15:45
3. 11:20 AM + 2h 30m = 1:50 PM
4. No. 2026 ÷ 4 = 506.5 → not divisible by 4 → not a leap year
5. 30 days
6. From 9:15 AM to 2:15 PM = 5 hours; +25 min = 5 hours 25 minutes
7. 145 ÷ 60 = 2 hours 25 minutes
8. 3 × 24 = 72 hours
9. 10 ÷ 7 = 1 week + 3 days → Monday + 3 days = Thursday
10. 5:30 PM – 1h = 4:30 PM; –45 min = 3:45 PM

Solutions – Worksheets

Worksheet 1

1. a) 60 b) 24 c) 12
2. a) Seven fifteen in the morning
   b) Eleven fifty at night
3. 366 days

Worksheet 2

1. 3h25m + 2h40m = 5h65m = 6 hours 5 minutes
2. 6:10 PM – 2h = 4:10 PM; –35 min = 3:35 PM
3. 8:00 AM + 4h20m = 12:20 PM

Worksheet 3

1. 25 – 10 = 15 days
2. January, March, May, July, August, October, December
3. Feb 1 = Sunday → Feb 14 = Sunday + 13 days → 13 ÷ 7 = 1 week + 6 days → Saturday
1.