Notes on Direction Sense for MAH MCA CET Exam

Concept of Direction Sense

Direction Sense questions test your ability to track movement and determine positions based on given instructions.

Basic Directions

- **Primary Directions:** North (N), South (S), East (E), West (W)
- **Intermediate Directions:** North-East (NE), North-West (NW), South-East (SE), South-West (SW)

Turn Rules

- **Right Turn:**
    - From **North → East**
    - From **East → South**
    - From **South → West**
    - From **West → North**
- **Left Turn:**
    - From **North → West**
    - From **West → South**
    - From **South → East**
    - From **East → North**

Types of Direction Sense Questions

1. Basic Direction Questions

- Example: A person walks 5 km north, then 3 km east. In which direction is he now from the starting point?
- **Solution:** Draw a diagram or use the Pythagoras theorem if needed.

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2. Right/Left Turn Questions

- Example: A person walks 4 km north, takes a right turn, walks 3 km, then takes a left turn and walks 2 km. Which direction is he facing now?
- **Solution:** Keep track of each turn logically.

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3. Distance Calculation Questions

- Example: A person walks 6 km north, then 8 km east. What is the shortest distance from the starting point?
- **Solution:** Use the **Pythagoras theorem:** Distance=62+82=36+64=100=10 km\text{Distance} = \sqrt{6^2 + 8^2} = \sqrt{36 + 64} = \sqrt{100} = 10 \text{ km}

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4. Shadow-Based Questions

- Morning: Shadow falls **opposite** to the sun (west).
- Evening: Shadow falls **opposite** to the sun (east).

Tips to Solve Direction Sense Questions

✔ **Use diagrams** to track movement.
✔ **Memorize turn rules** for quick solving.
✔ **Apply the Pythagorean theorem** for shortest distance problems.
✔ **Understand shadow-based questions** for time-based problems.

MCQs on Direction Sense

1. Direction-Based Movement

A person walks 5 km north, then turns right and walks 3 km, then turns right again and walks 5 km. How far is he from the starting point?
A) 3 km
B) 5 km
C) 8 km
D) 2 km
☑ **Answer:** A) 3 km

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2. Right and Left Turn

A person faces **north**, turns **right**, walks 5 km, then turns **left** and walks 3 km. Which direction is he facing now?
A) North
B) East
C) West
D) South
☑ **Answer:** B) East

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3. Distance Calculation

A person walks 6 km east and then 8 km north. What is the shortest distance from the starting point?
A) 10 km
B) 12 km
C) 14 km
D) 8 km
☑ **Answer:** A) 10 km (Using Pythagoras theorem: 62+82=10\sqrt{6^2 + 8^2} = 10)

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4. Shadow-Based Question

If a person is facing the sun in the morning, which direction is his shadow?
A) North
B) South
C) East
D) West
☑ **Answer:** D) West

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5. Finding Final Direction

A person starts facing **East**, turns **right**, then **left**, and finally **left** again. Which direction is he facing now?
A) North
B) East
C) West
D) South
☑ **Answer:** C) West
