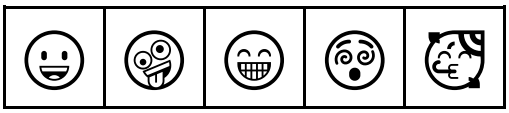
ASET/GATE Quantitative Reasoning 1

Student Name_____ **Date**___/___/_____

How am I feeling today?



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Remark for student

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1. Lara is participating in a reading marathon. She reads the first book in 90 minutes. She takes 15 minutes less to read the second book. How long does she spend reading 2 books?
A) 105 minutes.
B) 2 hours and 45 minutes
C) 2.5 hours
D) 2 hours and 15 minutes

2. A basket contains identical apples and identical oranges. The weight of 3 apples is the same as the weight of 2 oranges. If one orange weighs 300 grams, how much does one apple weigh?

A) 400 grams
B) 200 grams
C) 450 grams
D) 500 grams

3. Three friends, Sarah, Mark, and Emily, decide to share a box of chocolates. Sarah eats half of the chocolates, Mark eats one-fourth, and Emily eats the remaining 5 chocolates. How many chocolates were in the box originally?
A) 10
B) 15
C) 20
D) 25

Scenario 1

Flower Garden

Jess wants to plant flowers in her garden. Each square meter of space can have five flower plants. Her garden is 10 meters long and 6 meters wide.

4. How many flower plants can she plant in her entire garden?
A) 30
B) 60
C) 120
D) 300

5. Jersey spends $3 and 50 cents to buy each plant. What is the total money she spent to buy flowers plants?
A) 800
B) 900
C) 1050
D) 950

6. If Jess wants to create a walkway around the garden that is 1 meter wide, how wide would the entire area, including the walkway, be?
A) 6 meters
B) 7 meters
C) 8 meters
D) 9 meters

Scenario 2

"An advanced AI system has been integrated into an automated vehicle to accurately identify and interpret traffic light colours, including red, green, and yellow. The following table presents a comparison between the actual traffic light colours and the corresponding colours detected by the AI system."

Actual Colour	AI Detected as Red	AI Detected as Green	AI Detected as Yellow
Red	140	30	30
Green	20	160	20
Yellow	30	20	150

7. Which colour was most accurately detected by the AI system?
A) Green Light
B) Red Light
C) Yellow Light
D) The accuracy was the same for all colours

8. How many times did the AI system incorrectly detect a red light as green?
A) 20 times
B) 30 times
C) 50 times
D) 40 times

9. What is the total number of false detections for yellow lights by the AI system (i.e., yellow light detected when it was another colour)?
A) 50 times
B) 60 times
C) 70 times
D) 80 times

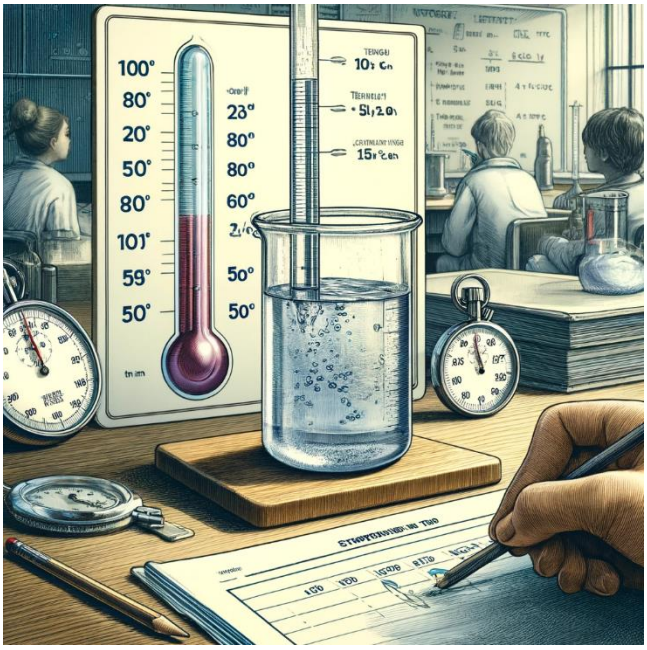
Scenario 3

Lucy, a young adventurer, sets out on a treasure hunt from her house. She starts her journey by walking 30 meters towards the North. Suddenly, she spots a clue and turns to walk 30 meters in the West direction. Excited, Lucy finds another hint and now heads 60 meters in the South direction. After collecting the final clue, she decides to return home.

10. In which direction does Lucy need to move to head straight back to her house?
A) South-east
B) South-west
C) North-east
D) North-west"
11. If Lucy walks further 30 m in the East direction. How far is Lucy from her house ?

A) 25 m
B) 60 m
C) 30 m
D) 10 m

Scenario 4



A class of students conducted an experiment to measure how quickly water cools. They recorded the temperature of boiling water at different times as it cooled down in an open container:

- Observation 1: At time 0 minutes (just after boiling), the temperature was 100℃.
- Observation 2: After 5 minutes, the temperature decreased to 80℃.
- Observation 3: After 15 minutes from the start, the temperature was measured at 55 ℃

12. What is the rate of temperature decrease per minute between 0 and 5 minutes.
A) 2
B) 20
C) 3
D) 4

13. Calculate the rate of temperature decrease per minute between 5 and 15 minutes.
A) 2
B) 2.5
C) 1
D) 1.5

14. Which statement is true
A) The rate of decrease was same in observation 2 and observation 3
B) The rate of decrease was higher in observation 2 compared ot observation 3
C)The rate of decrease was lower in observation 2 compared to observation 3
D)The rate of decrease was higher in last 15 min.

Answer Key

1. **B) 2 hours and 45 minutes**
2. **B) 200 grams**
3. **C) 20**
4. **D) 300**
5. **C) 1050**
6. **C) 8 meters**
7. **A) Green Light**.
8. **B) 30 times**.
9. **A) 50 times**.
10. **C) North-east**
11. **C) 30 m**
12. **D) 4**
13. **B) 2.5**
14. **B) The rate of decrease was higher in observation 2 compared to observation 3**