

Numerical Reasoning

Test 14



Solutions Booklet

Instructions

This practice test contains **30 questions**, and you will have **30 minutes** to answer them.

Each question will have four possible answers, one of which is correct.

Calculators are permitted for this test. It's recommended to have some rough paper for your calculations. You will have to work quickly and accurately to perform well in this test. If you don't know the answer to a question, leave it and come back to it if you have time.

Try to find a time and place where you will not be interrupted during the test. When you are ready, turn to the next page and begin.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	8	7	3	5	£86.00
El Pacifico	5	1	9	3	£64.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	9	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q1 You want to stay at the hotel with the second highest number of ratings larger than "Above Average". Which hotel should you stay at?

Answer:

- (A) The Marmot
- (B) Duchess and Rye
- (C) El Pacifico
- (D) Highway Inn
- (E) Lanebrooke Spa
- (F) None of the above

Step 1: Identify the hotel with the second highest number of ratings larger than "Above Average."

The Marmot = 1 rating above "Above Average"

Duchess and Rye = 2 ratings above "Above Average"

El Pacifico = 1 rating above "Above Average"

Highway Inn = 0 ratings above "Above Average"

Lanebrooke Spa = 4 ratings above "Above Average"

Thus, the correct answer is (B) Duchess and Rye.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	8	7	3	5	£86.00
El Pacifico	5	1	9	3	£64.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	6	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q2 You first select the hotels with no ratings at "Very Low" or lower. You then select the hotels with "Comfort" ratings higher than their "Location" ratings. Of the remaining hotels, you select the cheapest. Which hotel do you select?

Answer:

- (A) The Marmot
- (B) Duchess and Rye
- (C) El Pacifico
- (D) Highway Inn
- (E) Lanebrooke Spa
- (F) None of the above

Step 1: Select the hotels with no ratings at "Very Low" or lower.

The Marmot = 0 ratings at or below "Very Low"

Duchess and Rye = 0 ratings at or below "Very Low"

El Pacifico = 1 rating at or below "Very Low"

Highway Inn = 1 rating at or below "Very Low"

Lanebrooke Spa = 0 ratings at or below "Very Low"

Step 2: Of the applicable hotels, select the hotels with "Comfort" ratings higher than their "Location" ratings.

The Marmot = 3 : 3

Duchess and Rye = 8 : 7

Lanebrooke Spa = 8 : 6

Step 3 – Of the applicable hotels, select the cheapest.

Duchess and Rye = £86.00

Lanebrooke Spa = £97.00

Thus, the correct answer is (B) Duchess and Rye.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	5	7	3	5	£86.00
El Pacifico	5	1	9	3	£64.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	9	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q3 Hotel Luxor (not shown) has a "Location" to "Comfort" ratings ratio of 2:3. Which hotels have a lower "Location" to "Comfort" ratio than Hotel Luxor?

Answer:

- (A) The Marmot and Duchess and Rye
- (B) El Pacifico and Highway Inn
- (C) Lanebrooke Spa and The Marmot
- (D) El Pacifico and Lanebrooke Spa
- (E) Duchess and Rye and Lanebrooke Spa
- (F) None of the above

Step 1: Calculate the "Location" to "Comfort" ratio of each hotel, and identify the hotels with a ratio lower than that of Hotel Luxor (0.667).

The Marmot = 3:3 = 1:1 (1.0)

Duchess and Rye = 7:5 (1.4)

***El Pacifico* = 1:5 (0.2)**

***Highway Inn* = 1:4 (0.25)**

Lanebrooke Spa = 9:8 (1.125)

Thus, the correct answer is (B) El Pacifico and Highway Inn.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	8	7	3	5	£86.00
El Pacifico	5	8	9	3	£64.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	9	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q4 Of the hotels with a "Location" rating at or above "High" you select the two hotels with the lowest "Price per Night". Of those two hotels, you select the hotel with the highest rating for "Comfort". Which hotel do you select?

Answer:

- (A) The Marmot
- (B) Duchess and Rye
- (C) El Pacifico
- (D) Highway Inn
- (E) Lanebrooke Spa
- (F) None of the above

Step 1: Identify the hotels with "Location" ratings at or above "High."

The Marmot = 3

Duchess and Rye = 7

El Pacifico = 8

Highway Inn = 1

Lanebrooke Spa = 9

Step 2: Of the applicable hotels, select the two with the lowest "Price per Night."

Duchess and Rye = £86.00

El Pacifico = £64.00

Lanebrooke Spa = £97.00

Step 3 – Of the applicable hotels, select the hotel with the highest rating for "Comfort."

Duchess and Rye = 8

El Pacifico = 5

Thus, the correct answer is (B) Duchess and Rye.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	8	7	3	5	£86.00
El Pacifico	5	1	9	3	£64.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	9	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q5 Imagine that the most expensive hotel per night has a "Price" rating of "Extremely High", the least expensive hotel has a "Price" rating of "Extremely Low" and every other hotel has a "Price" rating of "Medium". With this in mind, which hotel has the highest overall rating across all 5 features?

Answer:

- (A) The Marmot
- (B) Duchess and Rye
- (C) El Pacifico
- (D) Highway Inn
- (E) Lanebrooke Spa
- (F) None of the above

Step 1: Identify the "Price" ratings for each hotel based on the "Price per Night."

The Marmot = £117.00 = Extremely High = 9

Duchess and Rye = £86.00 = Medium = 5

El Pacifico = £64.00 = Extremely low = 1

Highway Inn = £116.00 = Medium = 5

Lanebrooke Spa = £97.00 = Medium = 5

Step 2: Calculate the average based on the five ratings, including the new "Price" rating, and identify the hotel with the highest rating.

The Marmot = $(3 + 3 + 8 + 3 + 9) / 5 = 5.2$

Duchess and Rye = $(8 + 7 + 3 + 5 + 5) / 5 = 5.6$

El Pacifico = $(5 + 1 + 9 + 3 + 1) / 5 = 3.8$

Highway Inn = $(4 + 1 + 6 + 6 + 5) / 5 = 4.4$

Lanebrooke Spa = $(8 + 9 + 8 + 9 + 5) / 5 = 7.8$

Thus, the correct answer is (E) Lanebrooke Spa.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	8	7	3	5	£86.00
El Pacifico	5	1	9	3	£64.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	9	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q6 You want to stay at the hotel with the highest possible combined score on "Comfort" and "Service" while not paying more than £500 for five nights. Which hotel do you choose?

Answer:

- (A) The Marmot
- (B) Duchess and Rye
- (C) El Pacifico
- (D) Highway Inn
- (E) Lanebrooke Spa
- (F) None of the above

Step 1: Identify the hotels which would cost less than £500 for five nights.

The Marmot = £117.00 x 5 = £585

Duchess and Rye = £86.00 x 5 = £430

El Pacifico = £64.00 x 5 = £325

Highway Inn = £116.00 x 5 = £580

Lanebrooke Spa = £97.00 x 5 = £485

Step 2: Of the applicable hotels, select the hotel with the highest combined score on "Comfort" and "Service".

Duchess and Rye = 8 + 3 = 11

El Pacifico = 5 + 9 = 14

Lanebrooke Spa = 8 + 8 = 16

Thus, the correct answer is (E) Lanebrooke Spa.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	8	7	3	5	£86.00
El Pacifico	5	1	9	3	£64.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	9	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q7 You do not want to stay at a hotel with a "Cleanliness" rating below "Medium", a "Location" rating lower than its "Comfort" rating, or a "Price per Night" above £150. Which hotel could you stay in?

Answer:

- (A) The Marmot
- (B) Duchess and Rye
- (C) El Pacifico
- (D) Highway Inn
- (E) Lanebrooke Spa
- (F) None of the above

Step 1: Identify the hotels with a cleanliness rating at or above "Medium"

The Marmot = 3

Duchess and Rye = 5

El Pacifico = 3

Highway Inn = 6

Lanebrooke Spa = 9

Step 2: Of the applicable hotels, identify the hotels with "Location" ratings higher than their "Comfort" ratings.

Duchess and Rye = 7 : 8

Highway Inn = 1 : 4

Lanebrooke Spa = 9 : 8

Step 3 – Identify whether the applicable hotel has a "Price per night" lower than £150.

Lanebrooke Spa = £97.00

Thus, the correct answer is (E) Lanebrooke Spa.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	8	7	3	5	£186.00
El Pacifico	5	1	9	3	£164.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	9	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q8 You choose to stay at hotels with an average rating of "High" or greater across all features, or a "Price per Night" of £100 or lower, or a "Service" rating at extremely high. If you stay 1 night at each applicable Hotel, how much would you spend?

Answer:

- (A) £261.00
- (B) £270.00
- (C) £279.00
- (D) £288.00
- (E) £297.00
- (F) None of the above

Step 1: Calculate the average rating across all features for each hotel and select the hotels with an average rating at or above "High."

The Marmot = $(3 + 3 + 8 + 3) / 4 = 4.25$

Duchess and Rye = $(8 + 7 + 3 + 5) / 4 = 5.75$

El Pacifico = $(5 + 1 + 9 + 3) / 4 = 4.50$

Highway Inn = $(4 + 1 + 6 + 6) / 4 = 4.25$

Lanebrooke Spa = $(8 + 9 + 8 + 9) / 4 = 8.50$

Step 2: Identify the hotels with a "Price per Night" of £100 or less.

The Marmot = £117.00

Duchess and Rye = £186.00

El Pacifico = £164.00

Highway Inn = £116.00

Lanebrooke Spa = £97.00

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	3	3	8	3	£117.00
Duchess and Rye	8	7	3	5	£186.00
El Pacifico	5	1	9	3	£164.00
Highway Inn	4	1	6	6	£116.00
Lanebrooke Spa	8	9	8	9	£97.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Step 3 – Identify the hotels with “Service” ratings of “Extremely High”.

The Marmot = 8

Duchess and Rye = 3

El Pacifico = 9

Highway Inn = 6

Lanebrooke Spa = 8

Step 4 – Calculate how much it would cost to spend 1 night at each applicable hotel.

£97.00 + £164.00 = £261.00

Thus, the correct answer is (A) £261.00.

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	7	3	7	7	£127.00
Duchess and Rye	1	5	9	3	£128.00
El Pacifico	7	3	9	9	£69.00
Highway Inn	6	4	9	6	£89.00
Lanebrooke Spa	8	4	4	1	£130.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Q9 You consider "Comfort" to be 75% more important than "Service", and "Service" to be twice as important as "Cleanliness". You consider "Location" to be irrelevant. With this in mind, which Hotel has the highest weight average rating across all relevant features?

Answer:

- (A) The Marmot
- (B) Duchess and Rye
- (C) El Pacifico
- (D) Highway Inn
- (E) Lanebrooke Spa
- (F) None of the above

Step 1: Double each hotel's rating for "Service".

The Marmot = $7 \times 2 = 14$

Duchess and Rye = $9 \times 2 = 18$

El Pacifico = $9 \times 2 = 18$

Highway Inn = $9 \times 2 = 18$

Lanebrooke Spa = $4 \times 2 = 8$

Step 2: Double each hotel's rating for "Comfort" and increase that by 75%.

The Marmot = $7 \times 2 \times 1.75 = 24.5$

Duchess and Rye = $1 \times 2 \times 1.75 = 3.5$

El Pacifico = $7 \times 2 \times 1.75 = 24.5$

Highway Inn = $6 \times 2 \times 1.75 = 21$

Lanebrooke Spa = $8 \times 2 \times 1.75 = 28$

Hotel	Comfort	Location	Service	Cleanliness	Price per Night
The Marmot	7	3	7	7	£127.00
Duchess and Rye	1	5	9	3	£128.00
El Pacifico	7	3	9	9	£69.00
Highway Inn	6	4	9	6	£89.00
Lanebrooke Spa	8	4	4	1	£130.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High
1	2	3	4	5	6	7	8	9

Step 3 – Calculate the weighted average across the 3 relevant features (not including location).

The Marmot = $(24.5 + 14 + 7) / 3 = 15.17$

Duchess and Rye = $(3.5 + 18 + 3) / 3 = 8.17$

***El Pacifico* = $(24.5 + 18 + 9) / 3 = 17.17$**

Highway Inn = $(21 + 18 + 6) / 3 = 15$

Lanebrooke Spa = $(28 + 8 + 1) / 3 = 12.33$

Thus, the correct answer is (C) *El Pacifico*.

End of test