

Numerical Reasoning

Test 13



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.

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	9	8	2	10	£104.70
Oats	2	2	6	4	£152.60
Rice	3	10	3	3	£224.10
Corn	1	10	9	5	£103.80
Soybeans	1	6	7	9	£173.30

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q1 You want to invest in the commodity with the highest combined rating of "Liquidity" and "Forecast". Which commodity should you invest in?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Combine the ratings for "Liquidity" and "Forecast" and identify the largest combined rating.

$$\text{Wheat} = 2 + 10 = 12$$

$$\text{Oats} = 6 + 4 = 10$$

$$\text{Rice} = 3 + 3 = 6$$

$$\text{Corn} = 9 + 5 = 14$$

$$\text{Soybeans} = 7 + 9 = 16$$

Thus, the correct answer is (E) Soybeans

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	3	6	2	1	£204.90
Oats	10	4	2	4	£113.00
Rice	10	3	3	6	£219.20
Corn	5	9	10	7	£116.00
Soybeans	8	7	8	7	£279.20

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q2 You select the commodities with no ratings at or below "Very Low". Of the selected commodities, you choose the two cheapest per tonne. You then invest in the commodity with the fewest ratings at or below "Above Average". Which commodity do you invest in?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Select the commodities with no ratings at or below "Very low"

Wheat = 2 ratings at or below "Very Low"

Oats = 1 rating at or below "Very Low"

Rice = 0 ratings at or below "Very Low"

Corn = 0 ratings at or below "Very Low"

Soybeans = 0 ratings at or below "Very Low"

Step 2: Of the applicable commodities, select the two cheapest commodities per tonne.

Rice = £219.20

Corn = £116.00

Soybeans = £279.20

Step 3 – Of the applicable commodities, select the commodity with the fewest ratings at or below "Above Average"

Rice = 3 ratings at or below "Above Average"

Corn = 1 rating at or below "Above Average"

Thus, the correct answer is (D) Corn

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	5	4	8	10	£123.20
Oats	1	5	7	4	£236.90
Rice	6	1	7	10	£209.40
Corn	5	5	4	5	£129.50
Soybeans	8	8	1	9	£141.60

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q3 You only want to invest in a commodity where the "Liquidity" rating is higher than its "Forecast" rating. Which commodity do you invest in?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Look at the "Liquidity" to "Forecast" ratings for each commodity and identify if any have a rating where the "Forecast" is lower than the "Liquidity".

Wheat = 8 / 10

Oats = 7 / 4

Rice = 7 / 10

Corn = 4 / 5

Soybeans = 1 / 9

Thus, the correct answer is (B) Oats

Tip: you could save time on this question simply by looking at the data and seeing which one has a Liquidity rating higher than a Forecast rating.

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	5	5	7	9	£164.20
Oats	2	10	4	5	£219.90
Rice	2	3	6	10	£241.30
Corn	10	1	2	3	£220.90
Soybeans	7	1	8	4	£180.30

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q4 Of the commodities with a "Price per Tonne" lower than £200, you select the commodity with the highest number of ratings between "Medium " and "High". Which commodity do you select?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Identify the commodities with a "Price per Tonne" lower than £200

Wheat = £164.20

Oats = £219.90

Rice = £241.30

Corn = £220.90

Soybeans = £180.30

Step 2: Of the applicable commodities, select the commodity with the highest number of ratings between "Medium" and "High".

Wheat = 3 ratings between "Medium" and "High"

Soybeans = 1 rating between "Medium" and "High"

Thus, the correct answer is (A) Wheat

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	8	4	7	3	£176.40
Oats	10	6	6	3	£242.30
Rice	4	10	5	10	£121.30
Corn	1	1	4	2	£273.20
Soybeans	6	3	4	7	£171.00

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q5 You want to invest in the commodity with both an average rating of "High" or more across all features, and a rating of at least "High" for "Performance". Which commodity do you invest in?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Identify the commodities with an average rating of "High" across all features

$$\text{Wheat} = (8 + 4 + 7 + 3) / 4 = 5.5$$

$$\text{Oats} = (10 + 6 + 6 + 3) / 4 = 6.25$$

$$\text{Rice} = (4 + 10 + 5 + 10) / 4 = 7.25$$

$$\text{Corn} = (1 + 1 + 4 + 2) / 4 = 2$$

$$\text{Soybeans} = (6 + 3 + 4 + 7) / 4 = 5$$

Step 2: Of the applicable commodities, identify the commodity with a rating of "High" or more for "Performance"

Rice = rating of 4 for performance

Thus, the correct answer is (F) None of the above

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	5	9	10	10	£191.90
Oats	8	1	1	10	£252.80
Rice	3	10	6	2	£215.90
Corn	3	3	6	5	£171.60
Soybeans	10	8	1	1	£270.60

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q6 You want to invest in the commodity with a “Price per Tonne” of less than £200 per Tonne, and with no ratings at or below "Low". Which commodity do you invest in?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Identify the commodities with a “Price per Tonne” of less than £200

Wheat = £191.90

Oats = £252.80

Rice = £215.90

Corn = £171.60

Soybeans = £270.60

Step 2: Of the applicable commodities, identify the commodities with no ratings at or below “Low”

Wheat = 0 ratings at or below “Low”

Corn = 2 ratings at or below “Low”

Thus, the correct answer is (A) Wheat

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	8	2	6	9	£296.90
Oats	9	7	2	8	£246.40
Rice	8	8	8	7	£194.10
Corn	7	6	1	9	£220.10
Soybeans	2	3	9	10	£198.50

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q7 You do not want to invest in a commodity with a "Performance" rating lower than its rating for "Forecast", a "Volatility" rating at or above "High", or a price per tonne of £200 or higher. Which commodity could you invest in?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Identify the commodities with "Performance" ratings higher than its "Forecast" ratings

Wheat = 8 : 9

Oats = 9 : 8

Rice = 8 : 7

Corn = 7 : 9

Soybeans = 2 : 10

Step 2: Of the applicable commodities, identify the commodities with a "Volatility" rating below "High".

Oats = 7

Rice = 8

Thus, the correct answer is (F) None of the above

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	6	5	6	4	£255.40
Oats	5	7	8	5	£259.20
Rice	5	6	7	8	£150.10
Corn	10	10	1	4	£190.30
Soybeans	5	4	7	9	£111.60

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q8 You want to either invest in a commodity with no ratings at or below "Medium", or a commodity with an average "Performance" and "Liquidity" rating of "Above Average" or higher and a commodity with a "Price per Tonne" of £150 or lower. Which commodity do you invest in?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Identify a commodity with no ratings at or below "Medium"

Wheat = 2 ratings at or below "Medium"

Oats = 2 ratings at or below "Medium"

Rice = 1 rating at or below "Medium"

Corn = 2 ratings at or below "Medium"

Soybeans = 2 ratings at or below "Medium"

Step 2: Identify a commodity with an average "Performance" and "Liquidity" rating of "Above average" or higher.

Wheat = $(6 + 6) / 2 = 6$

Oats = $(5 + 8) / 2 = 6.5$

Rice = $(5 + 7) / 2 = 6$

Corn = $(10 + 1) / 2 = 5.5$

Soybeans = $(5 + 7) / 2 = 6$

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	6	5	6	4	£255.40
Oats	5	7	8	5	£259.20
Rice	5	6	7	8	£150.10
Corn	10	10	1	4	£190.30
Soybeans	5	4	7	9	£111.60

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Step 3 – Identify the commodity with a “Price per Tonne” lower than £150

Wheat = £255.40

Oats = £259.20

Rice = £150.10

Corn = £190.30

Soybeans = £111.60

Thus, the correct answer is (E) Soybeans

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	7	8	5	10	£111.00
Oats	9	8	1	9	£196.40
Rice	4	8	5	2	£143.80
Corn	10	6	6	6	£141.40
Soybeans	3	7	9	5	£283.40

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Q9 You consider "Performance" to be 50% more important than "Forecast", which you consider to be 30% more important than either of the other two ratings. With this in mind, which commodity would have the highest weighted average across all four ratings?

Answer:

- (A) Wheat
- (B) Oats
- (C) Rice
- (D) Corn
- (E) Soybeans
- (F) None of the above

Step 1: Increase the "Forecast" rating by 30% for each commodity

$$\text{Wheat} = 10 \times 1.3 = 13$$

$$\text{Oats} = 9 \times 1.3 = 11.7$$

$$\text{Rice} = 2 \times 1.3 = 2.6$$

$$\text{Corn} = 6 \times 1.3 = 7.8$$

$$\text{Soybeans} = 5 \times 1.3 = 6.5$$

Step 2: Increase the "Performance" rating by 30% and then 50% for each commodity

$$\text{Wheat} = 7 \times 1.3 \times 1.5 = 13.65$$

$$\text{Oats} = 9 \times 1.3 \times 1.5 = 17.55$$

$$\text{Rice} = 4 \times 1.3 \times 1.5 = 7.8$$

$$\text{Corn} = 10 \times 1.3 \times 1.5 = 19.5$$

$$\text{Soybeans} = 3 \times 1.3 \times 1.5 = 5.85$$

Commodity	Performance	Volatility	Liquidity	Forecast	Price per Tonne
Wheat	7	8	5	10	£111.00
Oats	9	8	1	9	£196.40
Rice	4	8	5	2	£143.80
Corn	10	6	6	6	£141.40
Soybeans	3	7	9	5	£283.40

Ratings Key:

Extremely Low	Very Low	Low	Below Average	Medium	Above Average	High	Very High	Extremely High	Maximum
1	2	3	4	5	6	7	8	9	10

Step 3 – Calculate the weighted average across all four features, and identify the commodity with the largest average

Wheat = $(13.65 + 8 + 5 + 13) / 4 = 9.9125$

Oats = $(17.55 + 8 + 1 + 11.7) / 4 = 9.5625$

Rice = $(7.8 + 8 + 5 + 2.6) / 4 = 5.85$

Corn = $(19.5 + 6 + 6 + 7.8) / 4 = 9.825$

Soybeans = $(5.85 + 7 + 9 + 6.5) / 4 = 7.0875$

Thus, the correct answer is (A) Wheat.

End of test