3.21 Logic Deduction: Test Pack

GL Assessment 11+ Verbal Reasoning · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

In each question you are given two or three statements. Treat every statement as TRUE, even if it seems unlikely, and use ONLY the information given (not outside knowledge or guesswork) to work out the answer. Some questions ask you to put people or things in order (for example, by height, age or speed); others give you a rule and ask what must follow from it. Read all the statements carefully before choosing your answer from options A to E. If the statements do not give enough information to be certain, choose the option that says so - do not pick the answer that merely seems likely.

Worked example. Ali is taller than Ben. Ben is taller than Cara. Who is the shortest? A) Ali B) Ben C) Cara D) Cannot tell E) Ali and Cara are the same height **Answer: C) Cara.** The two statements give a complete chain: Ali is taller than Ben, and Ben is taller than Cara. Putting this in order from tallest to shortest gives Ali, then Ben, then Cara, so Cara must be the shortest. There is enough information to be certain, so 'cannot tell' is wrong, and no equality was stated, so option E is also wrong.

1 Priya is faster than Tom. Josh is slower than Priya but faster than Fatima. Who is the slowest?

- ☐ A) Priya
- ☐ B) Tom
- ☐ C) Josh
- ☐ D) Fatima
- ☐ E) Cannot tell for certain

---

2 The cooking, science, coding and chess clubs each meet on a different day, Monday to Thursday. Each club meets once a week. The coding club meets on a day between those of the chess club and the science club. The cooking club meets on a day between those of the coding club and the science club. The coding club meets earlier in the week than the science club. On which day does the chess club meet?

- ☐ A) Wednesday
- ☐ B) Thursday
- ☐ C) Cannot tell
- ☐ D) Monday
- ☐ E) Tuesday

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3 Four children, Olive, Tess, Ravi and Ella, each drink a different one of these: milk, water, juice and cocoa. Tess does not drink milk. Ravi does not drink milk. Ella does not drink milk. Which one does Olive drink?

- ☐ A) juice
- ☐ B) water
- ☐ C) milk
- ☐ D) Cannot tell
- ☐ E) cocoa

---

4 Four pupils, Sana, Tara, Beth and Dev, each drink a different one of these: juice, water, cocoa and tea. They each also enjoy a different one of these: drawing, swimming, chess and tennis. Beth drinks water. Tara drinks cocoa. Dev drinks tea. Who drinks juice?

- ☐ A) Sana
- ☐ B) Beth
- ☐ C) Cannot tell
- ☐ D) Dev
- ☐ E) Tara

---

5 Four cousins, Hana, Ravi, Chloe and Anya, are all different heights. Chloe is shorter than Ravi. Anya is taller than Hana. Hana is taller than Chloe. Which one of these statements must be true?

- ☐ A) Chloe is shorter than Anya.
- ☐ B) Hana is shorter than Ravi.
- ☐ C) Anya is shorter than Ravi.
- ☐ D) Ravi is shorter than Hana.
- ☐ E) Hana is shorter than Chloe.

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6 Five neighbours, Raj, Ethan, Joe, Faye and Ali, all have different weights. Ali is heavier than Joe. Ethan is heavier than Faye. Raj is lighter than Ali. Ethan is lighter than Joe. Who is the heaviest?

- ☐ A) Ali
- ☐ B) Ethan
- ☐ C) Joe
- ☐ D) Faye
- ☐ E) Raj

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7 Three friends, Daisy, Eli and Pam, are all different heights. Pam is taller than Daisy. Eli is shorter than Pam. Who is the tallest?

- ☐ A) Daisy
- ☐ B) Cannot tell
- ☐ C) Eli
- ☐ D) Eli and Pam are the same
- ☐ E) Pam

---

8 Four cousins, Nina, Rhys, Callum and Theo, each like a different one of these: blue, red, green and purple. Theo does not like red. Rhys likes blue. Nina likes purple. Which one does Callum like?

- ☐ A) blue
- ☐ B) Cannot tell
- ☐ C) red
- ☐ D) green
- ☐ E) purple

---

9 Three pupils, Grace, Imran and Lucy, all have different amounts of money. Grace is richer than Imran. Grace is richer than Lucy. Who is the richest?

- ☐ A) Imran
- ☐ B) Grace
- ☐ C) Lucy
- ☐ D) Cannot tell
- ☐ E) Imran and Grace are the same

---

10 Four pupils, Faye, Ruby, Leo and Maya, are all different heights. Leo is taller than Faye. Maya is taller than Leo. Ruby is shorter than Faye. Who is the tallest?

- ☐ A) Ruby
- ☐ B) Cannot tell
- ☐ C) Maya
- ☐ D) Leo
- ☐ E) Faye

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11 The swimming, coding, football, chess and dance clubs each meet on a different day, Monday to Friday. Each club meets once a week. The chess club meets on a day between those of the coding club and the football club. The chess club meets on a day between those of the dance club and the swimming club. On which day does the chess club meet?

- ☐ A) Friday
- ☐ B) Thursday
- ☐ C) Wednesday
- ☐ D) Cannot tell
- ☐ E) Tuesday

---

12 The art, football, chess and coding clubs each meet on a different day, Monday to Thursday. Each club meets once a week. The coding club meets on Tuesday. The art club does not meet on Monday or Thursday. Which club meets on Wednesday?

- ☐ A) The football club
- ☐ B) Cannot tell
- ☐ C) The art club
- ☐ D) The coding club
- ☐ E) The chess club

---

13 The cooking, football, dance, art and science clubs each meet on a different day, Monday to Friday. Each club meets once a week. The science club does not meet on Thursday. The dance club meets earlier in the week than the science club. Which club meets on Monday?

- ☐ A) The science club
- ☐ B) The art club
- ☐ C) The football club
- ☐ D) Cannot tell
- ☐ E) The cooking club

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14 The art, chess, swimming, football and science clubs each meet on a different day, Monday to Friday. Each club meets once a week. The swimming club meets earlier in the week than the chess club. The football club meets on a day between those of the science club and the swimming club. The science club meets on a day between those of the art club and the swimming club. The chess club meets earlier in the week than the football club. On which day does the swimming club meet?

- ☐ A) Monday
- ☐ B) Thursday
- ☐ C) Wednesday
- ☐ D) Friday
- ☐ E) Tuesday

---

15 Three neighbours, Lena, Noah and Sam, are all different heights. Noah is taller than Sam. Lena is taller than Sam. Who is the shortest?

- ☐ A) Cannot tell
- ☐ B) Noah
- ☐ C) Lena
- ☐ D) Noah and Lena are the same
- ☐ E) Sam

---

16 Four pupils, Raj, Daisy, Una and Jade, all run at different speeds. Una is faster than Raj. Daisy is slower than Jade. Jade is slower than Raj. Who is the second slowest?

- ☐ A) Cannot tell
- ☐ B) Una
- ☐ C) Jade
- ☐ D) Daisy
- ☐ E) Raj

---

17 Four friends, Faye, Keira, Liam and Callum, each play a different one of these: the violin, the piano, the guitar and the flute. Callum does not play the piano. Liam does not play the violin. Keira plays the flute. Liam does not play the piano. Who plays the violin?

- ☐ A) Keira
- ☐ B) Liam
- ☐ C) Cannot tell
- ☐ D) Callum
- ☐ E) Faye

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18 Four friends, Jack, Beth, Eli and Dev, are all different in strength. Eli is stronger than Beth. Beth is stronger than Dev. Jack is stronger than Beth. Who is the weakest?

- [ ] A) Eli
- [ ] B) Beth
- [ ] C) Dev
- [ ] D) Cannot tell
- [ ] E) Jack

---

19 Four friends, Raj, Omar, Josh and Noah, each drink a different one of these: water, cocoa, juice and milk. Josh does not drink cocoa. Omar drinks juice. Raj drinks milk. Which one does Josh drink?

- [ ] A) cocoa
- [ ] B) Cannot tell
- [ ] C) juice
- [ ] D) water
- [ ] E) milk

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20 Statement 1: Some of the shapes in the box are triangles.
Statement 2: All triangles in the box are blue.
Which conclusion must be true?

- [ ] A) All shapes in the box are blue
- [ ] B) No shapes in the box are blue
- [ ] C) Some shapes in the box are blue
- [ ] D) All blue shapes in the box are triangles
- [ ] E) Cannot tell whether any shapes in the box are blue

---

21 Four neighbours, Jade, Eli, Liam and Rhys, each eat a different one of these: rice, pizza, soup and pasta. They each also have a different one of these: a cat, a hamster, a dog and a rabbit. Jade eats rice. Liam eats soup. Rhys eats pizza. Which one does Eli eat?

- [ ] A) pizza
- [ ] B) pasta
- [ ] C) soup
- [ ] D) Cannot tell
- [ ] E) rice

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22 The drama, coding, football, cooking and science clubs each meet on a different day, Monday to Friday. Each club meets once a week. The coding club meets on a day between those of the cooking club and the drama club. The cooking club meets on the day after the coding club. The cooking club does not meet on Thursday. The science club meets earlier in the week than the cooking club. On which day does the cooking club meet?

- ☐ A) Monday
- ☐ B) Tuesday
- ☐ C) Thursday
- ☐ D) Wednesday
- ☐ E) Friday

---

23 Five friends, Ben, Kim, Ali, Anya and Sam, are all different heights. Sam is taller than Kim. Anya is shorter than Ben. Anya is shorter than Ali. Kim is taller than Anya. Who is the shortest?

- ☐ A) Kim
- ☐ B) Anya
- ☐ C) Cannot tell
- ☐ D) Ben
- ☐ E) Ali

---

24 Four pupils, Hana, Grace, Beth and Zara, each like a different one of these: purple, red, green and yellow. Grace does not like red. Beth likes purple. Hana likes green. Which one does Zara like?

- ☐ A) yellow
- ☐ B) red
- ☐ C) green
- ☐ D) purple
- ☐ E) Cannot tell

---

25 Four children, Callum, Yusuf, Rosa and Holly, each like a different one of these: purple, red, yellow and green. Callum likes yellow. Holly does not like red. Yusuf likes purple. Which one does Holly like?

- ☐ A) red
- ☐ B) yellow
- ☐ C) Cannot tell
- ☐ D) green
- ☐ E) purple

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26 Four pupils, Priya, Olive, Tess and Faye, each like a different one of these: green, red, purple and yellow. Faye does not like green. Olive likes red. Priya likes purple. Who likes yellow?

- [ ] A) Faye
- [ ] B) Priya
- [ ] C) Cannot tell
- [ ] D) Olive
- [ ] E) Tess

---

27 Four pupils, Mia, Dev, Anya and Lena, all have different amounts of money. Dev is poorer than Mia. Mia is poorer than Lena. Dev is poorer than Anya. Who is the poorest?

- [ ] A) Lena
- [ ] B) Dev
- [ ] C) Cannot tell
- [ ] D) Mia
- [ ] E) Anya

---

28 Maya is older than Ben. Ben is older than Sophie. Sophie is older than Leo. Leo is older than Daniel. Who is the second youngest?

- [ ] A) Maya
- [ ] B) Leo
- [ ] C) Ben
- [ ] D) Sophie
- [ ] E) Daniel

---

29 Five cousins, Kofi, Olive, Jade, Holly and Pam, are all different heights. Olive is shorter than Jade. Kofi is taller than Olive. Olive is taller than Holly. Pam is shorter than Holly. Who is the second shortest?

- [ ] A) Kofi
- [ ] B) Cannot tell
- [ ] C) Jade
- [ ] D) Olive
- [ ] E) Holly

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30 Four cousins, Luke, Josh, Isla and Hana, sit in a row of 4 seats, one in each seat. The seats are numbered 1 to 4 from the left. Luke sits immediately to the right of Josh. Josh sits in seat 2, counting from the left. Isla sits somewhere to the left of Hana. Who sits at the far left of the row?

- [ ] A) Luke
- [ ] B) Isla
- [ ] C) Josh
- [ ] D) Hana
- [ ] E) Cannot tell

---

31 The art, swimming, cooking and choir clubs each meet on a different day, Monday to Thursday. Each club meets once a week. The cooking club meets on the day after the art club. The choir club meets on the day before or the day after the cooking club. On which day does the art club meet?

- [ ] A) Thursday
- [ ] B) Cannot tell
- [ ] C) Tuesday
- [ ] D) Wednesday
- [ ] E) Monday

---

32 Four friends, Raj, Maya, Rhys and Amir, sit in a row of 4 seats, one in each seat. The seats are numbered 1 to 4 from the left. Raj sits somewhere between Amir and Rhys. Amir sits next to Maya. Amir sits somewhere to the left of Raj. Which seat does Rhys sit in?

- [ ] A) Cannot tell
- [ ] B) Seat 2
- [ ] C) Seat 4
- [ ] D) Seat 3
- [ ] E) Seat 1

---

33 Three cousins, Aisha, Nadia and Tess, are all different heights. Nadia is taller than Aisha. Aisha is shorter than Tess. Who is the shortest?

- [ ] A) Tess and Aisha are the same
- [ ] B) Nadia
- [ ] C) Cannot tell
- [ ] D) Aisha
- [ ] E) Tess

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34 Four cousins, Beth, Omar, Nadia and Nathan, sit in a row of 4 seats, one in each seat. The seats are numbered 1 to 4 from the left. Beth sits next to Omar. Nadia sits immediately to the right of Omar. Nadia sits next to Nathan. Who sits in seat 4, counting from the left?

- ☐ A) Nadia
- ☐ B) Beth
- ☐ C) Nathan
- ☐ D) Cannot tell
- ☐ E) Omar

---

35 Four children, Cara, Anya, Ethan and Will, each play a different one of these: the flute, the violin, the piano and the guitar. Cara does not play the violin. Cara does not play the flute. Cara does not play the guitar. Who plays the piano?

- ☐ A) Will
- ☐ B) Ethan
- ☐ C) Anya
- ☐ D) Cara
- ☐ E) Cannot tell

---

36 Four neighbours, Priya, Sana, Liam and Ben, each enjoy a different one of these: football, tennis, swimming and chess. Priya enjoys chess. Liam enjoys football. Ben does not enjoy swimming. Who enjoys tennis?

- ☐ A) Priya
- ☐ B) Ben
- ☐ C) Sana
- ☐ D) Cannot tell
- ☐ E) Liam

---

37 Four cousins, Freya, Zara, Callum and Tess, each like a different one of these: red, blue, green and purple. They each also have a different one of these: a cat, a rabbit, a parrot and a dog. Freya has a parrot. Zara does not have a rabbit. Tess does not have a rabbit. Who has a rabbit?

- ☐ A) Callum
- ☐ B) Tess
- ☐ C) Zara
- ☐ D) Freya
- ☐ E) Cannot tell

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38 The drama, cooking, swimming and choir clubs each meet on a different day, Monday to Thursday. Each club meets once a week. The choir club meets on Wednesday. The swimming club meets on the day after the cooking club. On which day does the cooking club meet?

- ☐ A) Thursday
- ☐ B) Monday
- ☐ C) Wednesday
- ☐ D) Tuesday
- ☐ E) Cannot tell

---

39 The cooking, dance, chess and swimming clubs each meet on a different day, Monday to Thursday. Each club meets once a week. The chess club meets on a day between those of the cooking club and the swimming club. The swimming club does not meet on Wednesday. The cooking club does not meet on Monday. Which club meets on Tuesday?

- ☐ A) The swimming club
- ☐ B) The cooking club
- ☐ C) The chess club
- ☐ D) The dance club
- ☐ E) Cannot tell

---

40 Three children, Aisha, Sue and Hana, all run at different speeds. Sue is faster than Hana. Aisha is faster than Hana. Who is the slowest?

- ☐ A) Sue
- ☐ B) Cannot tell
- ☐ C) Aisha
- ☐ D) Aisha and Hana are the same
- ☐ E) Hana

---

41 Four neighbours, Chloe, Theo, Alex and Rosa, all have different weights. Alex is heavier than Chloe. Rosa is heavier than Chloe. Theo is lighter than Rosa. Theo is lighter than Chloe. Which one of these statements must be true?

- ☐ A) Theo is heavier than Alex.
- ☐ B) Chloe is heavier than Rosa.
- ☐ C) Alex is heavier than Rosa.
- ☐ D) Alex is heavier than Theo.
- ☐ E) Rosa is heavier than Alex.

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42 Four cousins, Aisha, Will, Sam and Eli, all have different weights. Eli is lighter than Sam. Eli is heavier than Aisha. Will is heavier than Aisha. Which one of these statements must be true?

- [ ] A) Sam is lighter than Will.
- [ ] B) Sam is heavier than Aisha.
- [ ] C) Will is lighter than Aisha.
- [ ] D) Eli is heavier than Will.
- [ ] E) Will is lighter than Sam.

---

43 The cooking, choir, dance and drama clubs each meet on a different day, Monday to Thursday. Each club meets once a week. The cooking club does not meet on Monday. The dance club meets earlier in the week than the cooking club. On which day does the cooking club meet?

- [ ] A) Cannot tell
- [ ] B) Thursday
- [ ] C) Wednesday
- [ ] D) Monday
- [ ] E) Tuesday

---

44 Four children, Max, Jack, Tara and Chloe, are all different in how clever they are. Jack is less clever than Max. Max is less clever than Tara. Jack is cleverer than Chloe. Who is the second cleverest?

- [ ] A) Max
- [ ] B) Cannot tell
- [ ] C) Jack
- [ ] D) Chloe
- [ ] E) Tara

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45 The coding, art, chess, drama and choir clubs each meet on a different day, Monday to Friday. Each club meets once a week. The drama club meets on Monday. The art club meets on the day before or the day after the drama club. On which day does the art club meet?

- [ ] A) Monday
- [ ] B) Wednesday
- [ ] C) Friday
- [ ] D) Tuesday
- [ ] E) Cannot tell

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46 Four children, Tom, Luke, Ruby and Hana, sit in a row of 4 seats, one in each seat. The seats are numbered 1 to 4 from the left. Tom sits somewhere between Hana and Ruby. Ruby sits in seat 4, counting from the left. Luke does not sit in seat 1, counting from the left. Who sits at the far left of the row?

- ☐ A) Hana
- ☐ B) Luke
- ☐ C) Tom
- ☐ D) Cannot tell
- ☐ E) Ruby

---

47 Four children, Faye, Rosa, Jade and Grace, are all different ages. Faye is older than Rosa. Jade is younger than Rosa. Grace is younger than Jade. Who is the oldest?

- ☐ A) Jade
- ☐ B) Grace
- ☐ C) Cannot tell
- ☐ D) Faye
- ☐ E) Rosa

---

48 Three friends, Yusuf, Amir and Tara, are all different ages. Amir is older than Tara. Yusuf is younger than Amir. Who is the oldest?

- ☐ A) Yusuf
- ☐ B) Amir and Tara are the same
- ☐ C) Tara
- ☐ D) Cannot tell
- ☐ E) Amir

---

49 Four pupils, Ella, Sue, Leo and Tara, all have different amounts of money. Leo is richer than Tara. Sue is richer than Ella. Tara is richer than Ella. Which one of these statements must be true?

- ☐ A) Leo is poorer than Ella.
- ☐ B) Leo is richer than Ella.
- ☐ C) Leo is poorer than Tara.
- ☐ D) Sue is poorer than Leo.
- ☐ E) Leo is poorer than Sue.

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50 Cal is older than Bea but younger than Dot. Ed is younger than Bea. Who is the oldest?

- ☐ A) Cal
- ☐ B) Ed
- ☐ C) Dot
- ☐ D) Cannot tell
- ☐ E) Bea

---

51 Four children, Sana, Raj, Liam and Zara, each drink a different one of these: milk, cocoa, tea and juice. Zara does not drink tea. Zara does not drink juice. Zara does not drink milk. Which one does Zara drink?

- ☐ A) cocoa
- ☐ B) Cannot tell
- ☐ C) juice
- ☐ D) tea
- ☐ E) milk

---

52 Four children, Noah, Holly, Sue and Kofi, sit in a row of 4 seats, one in each seat. The seats are numbered 1 to 4 from the left. Noah sits somewhere between Holly and Kofi. Sue sits somewhere between Holly and Noah. Sue sits immediately to the right of Noah. Which seat does Kofi sit in?

- ☐ A) Seat 1
- ☐ B) Seat 2
- ☐ C) Seat 3
- ☐ D) Seat 4
- ☐ E) Cannot tell

---

53 The science, swimming, football and art clubs each meet on a different day, Monday to Thursday. Each club meets once a week. The art club meets earlier in the week than the swimming club. The art club meets on a day between those of the football club and the science club. The science club meets on the day after the swimming club. Which club meets on Monday?

- ☐ A) The art club
- ☐ B) Cannot tell
- ☐ C) The football club
- ☐ D) The swimming club
- ☐ E) The science club

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54 The coding, science, choir and dance clubs each meet on a different day, Monday to Thursday. Each club meets once a week. The dance club meets on the day before or the day after the science club. The coding club meets earlier in the week than the science club. The choir club meets on the day before or the day after the dance club. On which day does the dance club meet?

- [ ] A) Thursday
- [ ] B) Cannot tell
- [ ] C) Wednesday
- [ ] D) Tuesday
- [ ] E) Monday

---

55 Four pupils, Zara, Raj, Ben and Sam, sit in a row of 4 seats, one in each seat. The seats are numbered 1 to 4 from the left. Raj sits somewhere to the left of Zara. Raj sits somewhere to the left of Sam. Who sits at the far left of the row?

- [ ] A) Ben
- [ ] B) Zara
- [ ] C) Cannot tell
- [ ] D) Raj
- [ ] E) Sam

---

56 Four cousins, Raj, Ethan, Nathan and Anya, all have different weights. Raj is lighter than Anya. Ethan is heavier than Raj. Nathan is heavier than Ethan. Who is the lightest?

- [ ] A) Ethan
- [ ] B) Nathan
- [ ] C) Cannot tell
- [ ] D) Anya
- [ ] E) Raj

---

57 Three friends, Noah, Zara and Josh, are all different in how clever they are. Noah is cleverer than Josh. Zara is cleverer than Josh. Who is the least clever?

- [ ] A) Zara
- [ ] B) Cannot tell
- [ ] C) Josh
- [ ] D) Zara and Noah are the same
- [ ] E) Noah

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58 Four pupils, Amir, Molly, Will and Liam, sit in a row of 4 seats, one in each seat. The seats are numbered 1 to 4 from the left. Liam sits in seat 2, counting from the left. Will does not sit in seat 1, counting from the left. Molly sits in seat 4, counting from the left. Who sits in seat 3, counting from the left?

- ☐ A) Will
- ☐ B) Liam
- ☐ C) Cannot tell
- ☐ D) Molly
- ☐ E) Amir

---

59 Statement 1: If Rory wins the race, he gets a trophy.
Statement 2: Rory does not win the race.
Which conclusion must be true?

- ☐ A) Cannot tell whether Rory gets a trophy.
- ☐ B) Rory gets a trophy.
- ☐ C) Rory did not take part in the race.
- ☐ D) Rory finished last in the race.
- ☐ E) Rory does not get a trophy.

---

60 Four children stand in a queue. Ben is directly behind Ali. Cara is at the back of the queue. Dan is at the front of the queue. Who is second in the queue?

- ☐ A) Cannot tell
- ☐ B) Cara
- ☐ C) Dan
- ☐ D) Ali
- ☐ E) Ben

---

61 Sophie runs faster than Kwame. Leo runs slower than Kwame. Who runs the fastest?

- ☐ A) Leo
- ☐ B) Kwame
- ☐ C) Cannot tell
- ☐ D) Kwame and Sophie run at the same speed
- ☐ E) Sophie

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62 Four pupils, Keira, Beth, Ella and Imran, each play a different one of these: the violin, the piano, the guitar and the drums. They each also have a different one of these: a dog, a cat, a rabbit and a hamster. Keira plays the piano. Ella does not play the drums. Beth plays the guitar. Who plays the drums?

- ☐ A) Ella
- ☐ B) Cannot tell
- ☐ C) Keira
- ☐ D) Imran
- ☐ E) Beth

---

63 Four pupils, Theo, Raj, Sana and Lucy, each enjoy a different one of these: drawing, football, swimming and tennis. They each also have a different one of these: a parrot, a dog, a rabbit and a cat. The pupil who enjoys swimming has a rabbit. Raj has a parrot. The pupil who enjoys tennis has a parrot. Who has a rabbit?

- ☐ A) Cannot tell
- ☐ B) Sana
- ☐ C) Theo
- ☐ D) Raj
- ☐ E) Lucy

---

64 Four cousins, Olive, Mia, Kim and Zara, are all different in strength. Zara is stronger than Kim. Zara is stronger than Olive. Mia is stronger than Kim. Mia is stronger than Zara. Which one of these statements must be true?

- ☐ A) Mia is stronger than Olive.
- ☐ B) Zara is weaker than Kim.
- ☐ C) Kim is stronger than Olive.
- ☐ D) Kim is weaker than Olive.
- ☐ E) Zara is weaker than Olive.

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65 Four children, Theo, Ali, Tom and Anya, each enjoy a different one of these: drawing, chess, tennis and swimming. Theo enjoys tennis. Anya enjoys chess. Ali enjoys drawing. Who enjoys swimming?

- [ ] A) Cannot tell
- [ ] B) Theo
- [ ] C) Anya
- [ ] D) Tom
- [ ] E) Ali

---

66 Three friends, Liam, Anya and Amir, are all different in strength. Liam is weaker than Amir. Anya is weaker than Amir. Who is the strongest?

- [ ] A) Amir
- [ ] B) Anya
- [ ] C) Liam
- [ ] D) Cannot tell
- [ ] E) Anya and Amir are the same

---

67 Four neighbours, Sue, Cara, Eli and Chloe, are all different in how clever they are. Cara is cleverer than Eli. Sue is less clever than Cara. Chloe is less clever than Sue. Who is the cleverest?

- [ ] A) Eli
- [ ] B) Chloe
- [ ] C) Cannot tell
- [ ] D) Cara
- [ ] E) Sue

---

68 Four neighbours, Yusuf, Una, Finn and Jack, each like a different one of these: blue, purple, red and yellow. Finn does not like yellow. Yusuf does not like yellow. Jack does not like yellow. Which one does Una like?

- [ ] A) Cannot tell
- [ ] B) red
- [ ] C) blue
- [ ] D) purple
- [ ] E) yellow

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69 Three children, Theo, Callum and Kim, all have different weights. Callum is heavier than Kim. Theo is heavier than Callum. Who is the heaviest?

- [ ] A) Callum
- [ ] B) Theo and Callum are the same
- [ ] C) Cannot tell
- [ ] D) Kim
- [ ] E) Theo

---

70 Statement 1: Chen is older than Priya.
Statement 2: Priya is the same age as Fatima.
Statement 3: Fatima is older than Josh.
Which conclusion must be true?

- [ ] A) Josh is older than Chen
- [ ] B) Chen is the same age as Fatima
- [ ] C) Chen is older than Josh
- [ ] D) Fatima is older than Chen
- [ ] E) Cannot tell how Chen and Josh compare

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71 Sana, Theo, Uma and Vince each play a different instrument: the flute, the piano, the violin or the drums. Vince plays the piano. Sana does not play the flute. Sana does not play the drums. Uma plays either the flute or the violin. What does Uma play?

- [ ] A) The flute
- [ ] B) Cannot tell
- [ ] C) The piano
- [ ] D) The drums
- [ ] E) The violin

---

72 Statement 1: Some of the girls in the choir play the flute.
Statement 2: Some of the girls in the choir play the violin.
Which conclusion must be true?

- [ ] A) None of the girls in the choir plays both instruments.
- [ ] B) Every girl in the choir plays an instrument.
- [ ] C) Cannot tell whether any girl plays both instruments.
- [ ] D) Some of the girls in the choir play both instruments.
- [ ] E) All of the girls in the choir play the flute.

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73 Statement 1: All the trains on Platform 2 are late.
Statement 2: Some of the trains in the station are late.
Which conclusion must be true?

- ☐ A) Some of the trains in the station are on Platform 2.
- ☐ B) All the trains in the station are late.
- ☐ C) Cannot tell whether any of the trains in the station are on Platform 2.
- ☐ D) Every late train in the station is on Platform 2.
- ☐ E) No train in the station is on Platform 2.

---

74 Ivy is slower than Hana. Gareth is faster than Hana. Jamal is slower than Ivy. Who is the slowest?

- ☐ A) Jamal
- ☐ B) Ivy
- ☐ C) Cannot tell
- ☐ D) Hana
- ☐ E) Gareth

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Mark scheme · 3.21 Logic Deduction: Test Pack

Question 1

E) Cannot tell for certain - Tom is never compared with Josh or Fatima, so his position among them is unknown **B1**

Answer: E) Cannot tell for certain

Question 2

D) Monday - putting the clues together, only Monday fits **B1**

Answer: D) Monday

Question 3

C) milk - putting the clues together, only milk fits **B1**

Answer: C) milk

Question 4

A) Sana - putting the clues together, only Sana fits **B1**

Answer: A) Sana

Question 5

A) Chloe is shorter than Anya. - this is the only statement that is true however the clues are arranged **B1**

Answer: A) Chloe is shorter than Anya.

Question 6

A) Ali - putting the clues together, only Ali fits **B1**

Answer: A) Ali

Question 7

E) Pam - putting the clues together, only Pam fits **B1**

Answer: E) Pam

Question 8

C) red - putting the clues together, only red fits **B1**

Answer: C) red

Question 9

B) Grace - putting the clues together, only Grace fits **B1**

Answer: B) Grace

Question 10

C) Maya - putting the clues together, only Maya fits **B1**

Answer: C) Maya

Question 11

C) Wednesday - putting the clues together, only Wednesday fits **B1**

Answer: C) Wednesday

Question 12

C) The art club - putting the clues together, only The art club fits **B1**

Answer: C) The art club

Question 13

D) Cannot tell - the clues leave more than one answer possible, so it cannot be decided **B1**

Answer: D) Cannot tell

Question 14

A) Monday - putting the clues together, only Monday fits **B1**

Answer: A) Monday

Question 15

E) Sam - putting the clues together, only Sam fits **B1**

Answer: E) Sam

Question 16

C) Jade - putting the clues together, only Jade fits **B1**

Answer: C) Jade

Question 17

D) Callum - putting the clues together, only Callum fits **B1**

Answer: D) Callum

Question 18

C) Dev - putting the clues together, only Dev fits **B1**

Answer: C) Dev

Question 19

D) water - putting the clues together, only water fits **B1**

Answer: D) water

Question 20

C) Some shapes in the box are blue - the triangles that exist must be blue, so at least some shapes are blue **B1**

Answer: C) Some shapes in the box are blue

Question 21

B) pasta - putting the clues together, only pasta fits **B1**

Answer: B) pasta

Question 22

E) Friday - putting the clues together, only Friday fits **B1**

Answer: E) Friday

Question 23

B) Anya - putting the clues together, only Anya fits **B1**

Answer: B) Anya

Question 24

B) red - putting the clues together, only red fits **B1**

Answer: B) red

Question 25

D) green - putting the clues together, only green fits **B1**

Answer: D) green

Question 26

A) Faye - putting the clues together, only Faye fits **B1**

Answer: A) Faye

Question 27

B) Dev - putting the clues together, only Dev fits **B1**

Answer: B) Dev

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Question 28

B) Leo - the order Maya > Ben > Sophie > Leo > Daniel places Leo second from the bottom **B1**

Answer: B) Leo

Question 29

E) Holly - putting the clues together, only Holly fits **B1**

Answer: E) Holly

Question 30

B) Isla - putting the clues together, only Isla fits **B1**

Answer: B) Isla

Question 31

B) Cannot tell - the clues leave more than one answer possible, so it cannot be decided **B1**

Answer: B) Cannot tell

Question 32

C) Seat 4 - putting the clues together, only Seat 4 fits **B1**

Answer: C) Seat 4

Question 33

D) Aisha - putting the clues together, only Aisha fits **B1**

Answer: D) Aisha

Question 34

C) Nathan - putting the clues together, only Nathan fits **B1**

Answer: C) Nathan

Question 35

D) Cara - putting the clues together, only Cara fits **B1**

Answer: D) Cara

Question 36

B) Ben - putting the clues together, only Ben fits **B1**

Answer: B) Ben

Question 37

A) Callum - putting the clues together, only Callum fits **B1**

Answer: A) Callum

Question 38

B) Monday - putting the clues together, only Monday fits **B1**

Answer: B) Monday

Question 39

E) Cannot tell - the clues leave more than one answer possible, so it cannot be decided **B1**

Answer: E) Cannot tell

Question 40

E) Hana - putting the clues together, only Hana fits **B1**

Answer: E) Hana

Question 41

D) Alex is heavier than Theo. - this is the only statement that is true however the clues are arranged **B1**

Answer: D) Alex is heavier than Theo.

Question 42

B) Sam is heavier than Aisha. - this is the only statement that is true however the clues are arranged **B1**

Answer: B) Sam is heavier than Aisha.

Question 43

A) Cannot tell - the clues leave more than one answer possible, so it cannot be decided **B1**

Answer: A) Cannot tell

Question 44

A) Max - putting the clues together, only Max fits **B1**

Answer: A) Max

Question 45

D) Tuesday - putting the clues together, only Tuesday fits **B1**

Answer: D) Tuesday

Question 46

A) Hana - putting the clues together, only Hana fits **B1**

Answer: A) Hana

Question 47

D) Faye - putting the clues together, only Faye fits **B1**

Answer: D) Faye

Question 48

E) Amir - putting the clues together, only Amir fits **B1**

Answer: E) Amir

Question 49

B) Leo is richer than Ella. - this is the only statement that is true however the clues are arranged **B1**

Answer: B) Leo is richer than Ella.

Question 50

C) Dot - Putting the people in order from oldest to youngest gives Dot, Cal, Bea, Ed, so the answer is Dot. **B1**

Answer: C) Dot

Question 51

A) cocoa - putting the clues together, only cocoa fits **B1**

Answer: A) cocoa

Question 52

A) Seat 1 - putting the clues together, only Seat 1 fits **B1**

Answer: A) Seat 1

Question 53

C) The football club - putting the clues together, only The football club fits **B1**

Answer: C) The football club

Question 54

C) Wednesday - putting the clues together, only Wednesday fits **B1**

Answer: C) Wednesday

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Question 55

C) Cannot tell - the clues leave more than one answer possible, so it cannot be decided **B1**

Answer: C) Cannot tell

Question 56

E) Raj - putting the clues together, only Raj fits **B1**

Answer: E) Raj

Question 57

C) Josh - putting the clues together, only Josh fits **B1**

Answer: C) Josh

Question 58

A) Will - putting the clues together, only Will fits **B1**

Answer: A) Will

Question 59

A) Cannot tell whether Rory gets a trophy. - The statements only say what happens if Rory wins. He did not win, so they say nothing about whether he gets a trophy. **B1**

Answer: A) Cannot tell whether Rory gets a trophy.

Question 60

D) Ali - Dan is first and Cara is fourth, so Ali and Ben fill places 2 and 3. Ben is directly behind Ali, so Ali is second and Ben is third. **B1**

Answer: D) Ali

Question 61

E) Sophie - the order Sophie > Kwame > Leo puts Sophie at the top **B1**

Answer: E) Sophie

Question 62

D) Imran - putting the clues together, only Imran fits **B1**

Answer: D) Imran

Question 63

A) Cannot tell - the clues leave more than one answer possible, so it cannot be decided **B1**

Answer: A) Cannot tell

Question 64

A) Mia is stronger than Olive. - this is the only statement that is true however the clues are arranged **B1**

Answer: A) Mia is stronger than Olive.

Question 65

D) Tom - putting the clues together, only Tom fits **B1**

Answer: D) Tom

Question 66

A) Amir - putting the clues together, only Amir fits **B1**

Answer: A) Amir

Question 67

D) Cara - putting the clues together, only Cara fits **B1**

Answer: D) Cara

Question 68

E) yellow - putting the clues together, only yellow fits **B1**

Answer: E) yellow

Question 69

E) Theo - putting the clues together, only Theo fits **B1**

Answer: E) Theo

Question 70

C) Chen is older than Josh - the chain Chen > Priya = Fatima > Josh gives Chen > Josh **B1**

Answer: C) Chen is older than Josh

Question 71

A) The flute - Vince plays the piano. Sana does not play the flute or the drums, so Sana plays the violin. Uma plays the flute or the violin, so Uma plays the flute. **B1**

Answer: A) The flute

Question 72

C) Cannot tell whether any girl plays both instruments. - The statements say some girls play the flute and some play the violin. They could be the same girls or different girls, so none of the other conclusions is certain. **B1**

Answer: C) Cannot tell whether any girl plays both instruments.

Question 73

C) Cannot tell whether any of the trains in the station are on Platform 2. - The first statement is about trains on Platform 2 only, and the second says only that some trains in the station are late. Those late trains could all be on other platforms, so nothing is certain about Platform 2. **B1**

Answer: C) Cannot tell whether any of the trains in the station are on Platform 2.

Question 74

A) Jamal - Putting the people in order from fastest to slowest gives Gareth, Hana, Ivy, Jamal, so the answer is Jamal. **B1**

Answer: A) Jamal

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