6.2 Shape, Position and Direction: 2-hour Pack

STA NC-KS1-MATHS-STA · Calculators not allowed · about 120 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Stepping stones are numbered 1 to 20. A kangaroo stands on stone 4. It hops forward 7 stones, then back 3 stones.

Which stone is the kangaroo on now?

(2)

---

2 A robot stands on a square grid at column 2, row 1 (columns go across, rows go up). It moves 2 squares right, then 2 squares up.

Which column and row is the robot on now? Write column then row.

(2)

---

3 How many faces does a cylinder have?

(1)

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4 Four toy animals sit in a row from left to right: pig, rabbit, dog, cow.

Which toy is on the far left?

(1)

---

5 Four toy animals sit in a row from left to right: cow, rabbit, duck, hen.

Which toy is on the far left?

(1)

---

6 Is a clockwise turn the same direction as the hands of a clock? Write Yes or No.

(1)

---

7 5 children stand in a line, from the front: Oscar, Priya, Bella, Yusuf, Ben.

Who is fourth in the line?

(1)

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8 A robot stands on a square grid at column 3, row 2 (columns go across, rows go up). It moves 3 squares up, then 2 squares left, then 1 square right.

Which column and row is the robot on now? Write column then row.

(2)

---

9 Four toy animals sit in a row from left to right: bird, rabbit, cow, fish.

Which toy is between the rabbit and the fish?

(1)

---

10 How many corners does a rectangle have?

(1)

---

11 Four toy animals sit in a row from left to right: rabbit, cow, fish, dog.

Which toy is on the far right?

(1)

---

12 Four toy animals sit in a row from left to right: duck, dog, cat, cow.

Which toy is on the far right?

(1)

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13 Four toy animals sit in a row from left to right: cat, duck, cow, hen.

Which toy is between the duck and the hen?

(1)

---

14 Look at the pattern. What comes next?

circle, square, circle, square, circle, square, circle, ___

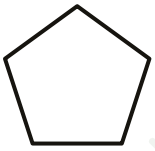
(1)

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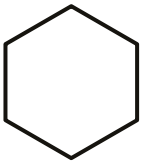
15 Four shapes are shown below, labelled A, B, C and D.

Write the name of each shape.

A) ___ B) ___ C) ___ D) ___



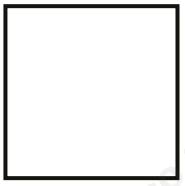
A



B



C



D

(4)

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16 Here are some flat shapes: hexagon, square, hexagon, hexagon, square, rectangle.

How many of the shapes has no corners?

(1)

---

17 Stepping stones are numbered 1 to 20. A kangaroo stands on stone 14. It hops forward 3 stones, then back 4 stones.

Which stone is the kangaroo on now?

(2)

---

18 5 children stand in a line, from the front: Ivan, Hassan, Lily, Reece, Willow.

Who is fifth in the line?

(1)

---

19 Four toy animals sit in a row from left to right: duck, rabbit, dog, bird.

Which toy is on the far left?

(1)

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20 How many sides does a triangle have?

(1)

21 How many vertices (corners) does a cylinder have?

(1)

22 7 children stand in a line, from the front: Priya, Ben, Ivan, Oscar, Amira, Noah, Ravi.

Who is first in the line?

(1)

23 How many faces does a triangular prism have?

(1)

24 How many straight sides does a circle have?

(1)

25 Aaron is facing south. Aaron makes a whole turn.

Which direction is Aaron facing now?

(1)

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26 A robot stands on a square grid at column 0, row 3 (columns go across, rows go up). It moves 1 square up, then 1 square down, then 2 squares up.

Which column and row is the robot on now? Write column then row.

(2)

---

27 Stepping stones are numbered 1 to 20. A grasshopper stands on stone 7. It hops forward 2 stones, then back 3 stones.

Which stone is the grasshopper on now?

(2)

---

28 Bella is facing east. Bella makes a whole turn.

Which direction is Bella facing now?

(1)

---

29 Here are some flat shapes: pentagon, hexagon, octagon, triangle, pentagon, hexagon.

How many of the shapes has exactly 4 corners?

(1)

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30 4 children stand in a line, from the front: Layla, Nia, Isla, Daisy.

What position is Isla in the line? Write your answer as first, second, third and so on.

(1)

31 A robot stands on a square grid at column 2, row 0 (columns go across, rows go up). It moves 2 squares right, then 2 squares right.

Which column and row is the robot on now? Write column then row.

(2)

32 6 children stand in a line, from the front: Isla, Noah, Amira, Callum, Victor, Uma.

Who is fifth in the line?

(1)

33 7 children stand in a line, from the front: Ivan, Priya, Freya, Olu, Dev, Kofi, Ben.

What position is Dev in the line? Write your answer as first, second, third and so on.

(1)

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34 Four toy animals sit in a row from left to right: pig, cat, cow, dog.

Which toy is on the far left?

(1)

---

35 How many right angles make a half turn?

(1)

---

36 Four toy animals sit in a row from left to right: hen, cow, bird, pig.

Which toy is between the cow and the pig?

(1)

---

37 Four toy animals sit in a row from left to right: dog, duck, bird, pig.

Which toy is on the far left?

(1)

---

38 Here are some flat shapes: square, triangle, octagon, triangle, triangle, hexagon, octagon.

How many of the shapes has no corners?

(1)

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39 How many half turns make a whole turn?

(1)

---

40 Four toy animals sit in a row from left to right: rabbit, fish, bird, pig.

Which toy is on the far right?

(1)

---

41 Look at the pattern. What comes next?

star, heart, star, heart, star, heart, star, ___

(1)

---

42 Read each clue and write the name of the 3-D shape it describes.

(a) I have a curved surface, one flat circular face and one vertex (a point) at the top. What am I? **(1)**

(b) I have 5 faces (1 square face and 4 triangular faces) and 5 vertices. What am I? **(1)**

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43 6 children stand in a line, from the front: Victor, Freya, Dev, Femi, Poppy, Hana.

Who is sixth in the line?

(1)

---

44 Four toy animals sit in a row from left to right: bird, hen, cow, duck.

Which toy is between the hen and the duck?

(1)

---

45 How many quarter turns make a whole turn?

(1)

---

46 Look at the pattern. What comes next?

red, red, blue, red, red, blue, red, ___

(1)

---

47 Stepping stones are numbered 1 to 20. A frog stands on stone 11. It hops forward 4 stones, then back 1 stone.

Which stone is the frog on now?

(2)

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48 How many vertices (corners) does a cone have?

(1)

49 How many sides does a rectangle have?

(1)

50 How many edges does a cylinder have?

(1)

51 Stepping stones are numbered 1 to 20. A kangaroo stands on stone 13. It hops forward 5 stones, then back 3 stones.

Which stone is the kangaroo on now?

(2)

52 A robot stands on a square grid at column 0, row 3 (columns go across, rows go up). It moves 2 squares right, then 2 squares down, then 1 square left.

Which column and row is the robot on now? Write column then row.

(2)

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53 Look at the pattern. What comes next?

circle, circle, square, circle, circle, square, circle, circle, ___

(1)

---

54 Stepping stones are numbered 1 to 20. A grasshopper stands on stone 5. It hops forward 6 stones, then back 1 stone.

Which stone is the grasshopper on now?

(2)

---

55 Is a clock face a 2D shape or a 3D shape?

(1)

---

56 I am a flat shape. It has 8 straight sides and 8 corners.

What shape am I?

(1)

---

57 Is a flat coin face a 2D shape or a 3D shape?

(1)

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58 Four toy animals sit in a row from left to right: dog, cow, bird, hen.

Which toy is on the far right?

(1)

---

59 Four toy animals sit in a row from left to right: cow, duck, fish, dog.

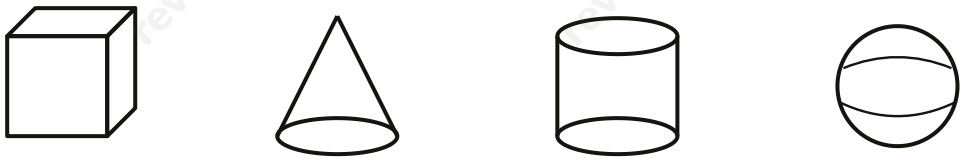
Which toy is on the far right?

(1)

---

60 Four 3-D shapes are shown below, labelled A, B, C and D: a cube, a cone, a cylinder and a sphere (in a mixed-up order).

One of these shapes does not have a curved surface.



A B C D

(a) Write the letter of the shape that does NOT have a curved surface. **(1)**

(b) Give one reason for your answer. **(1)**

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61 Four toy animals sit in a row from left to right: cat, fish, bird, rabbit.

Which toy is on the far right?

(1)

---

62 How many corners does a triangle have?

(1)

---

63 Priya is facing north. Priya makes a quarter turn anticlockwise.

Which direction is Priya facing now?

(1)

---

64 Priya is facing west. Priya makes a quarter turn anticlockwise.

Which direction is Priya facing now?

(1)

---

65 How many vertices (corners) does a sphere have?

(1)

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66 5 children stand in a line, from the front: Lily, Yusuf, Kofi, Ella, Ravi.

Who is third in the line?

(1)

---

67 A robot stands on a square grid at column 1, row 3 (columns go across, rows go up). It moves 1 square left, then 1 square up, then 2 squares down.

Which column and row is the robot on now? Write column then row.

(2)

---

68 4 children stand in a line, from the front: Nia, Ben, Mia, Reece.

Who is fourth in the line?

(1)

---

69 How many faces does a cone have?

(1)

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Mark scheme · 6.2 Shape, Position and Direction: 2-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

4 + 7 = 11 seen — M1
8 cao — A1
Answer: **8**

Question 2

one move tracked correctly — M1
column 4, row 3 cao — A1
Answer: **column 4, row 3**

Question 3

3 cao — B1
Answer: **3**

Question 4

pig cao — B1
Answer: **pig**

Question 5

cow cao — B1
Answer: **cow**

Question 6

Yes cao — B1
Answer: **Yes**

Question 7

Yusuf cao — B1
Answer: **Yusuf**

Question 8

one move tracked correctly — M1
column 2, row 5 cao — A1
Answer: **column 2, row 5**

Question 9

cow cao — B1
Answer: **cow**

Question 10

4 cao — B1
Answer: **4**

Question 11

dog cao — B1
Answer: **dog**

Question 12

cow cao — B1
Answer: **cow**

Question 13

cow cao — B1
Answer: **cow**

Question 14

square cao — B1
Answer: **square**

Question 15

A) pentagon cao — B1
B) hexagon cao — B1
C) rectangle cao — B1
D) square cao — B1
Answer: **A) pentagon B) hexagon C) rectangle D) square**

Question 16

0 cao — B1
Answer: **0**

Question 17

14 + 3 = 17 seen — M1
13 cao — A1
Answer: **13**

Question 18

Willow cao — B1
Answer: **Willow**

Question 19

duck cao — B1
Answer: **duck**

Question 20

3 cao — B1
Answer: **3**

Question 21

0 cao — B1
Answer: **0**

Question 22

Priya cao — B1
Answer: **Priya**

Question 23

5 cao — B1
Answer: **5**

Question 24

0 cao — B1
Answer: **0**

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Question 25

south cao — **B1**

Answer: **south**

Question 26

one move tracked correctly — **M1**

column 0, row 5 cao — **A1**

Answer: **column 0, row 5**

Question 27

7 + 2 = 9 seen — **M1**

6 cao — **A1**

Answer: **6**

Question 28

east cao — **B1**

Answer: **east**

Question 29

0 cao — **B1**

Answer: **0**

Question 30

third cao — **B1**

Answer: **third**

Question 31

one move tracked correctly — **M1**

column 6, row 0 cao — **A1**

Answer: **column 6, row 0**

Question 32

Victor cao — **B1**

Answer: **Victor**

Question 33

fifth cao — **B1**

Answer: **fifth**

Question 34

pig cao — **B1**

Answer: **pig**

Question 35

2 cao — **B1**

Answer: **2**

Question 36

bird cao — **B1**

Answer: **bird**

Question 37

dog cao — **B1**

Answer: **dog**

Question 38

0 cao — **B1**

Answer: **0**

Question 39

2 cao — **B1**

Answer: **2**

Question 40

pig cao — **B1**

Answer: **pig**

Question 41

heart cao — **B1**

Answer: **heart**

Question 42

(a) cone cao — **B1**

(a) Answer: **cone**

(b) square-based pyramid cao (accept 'pyramid') — **B1**

(b) Answer: **square-based pyramid**

Question 43

Hana cao — **B1**

Answer: **Hana**

Question 44

cow cao — **B1**

Answer: **cow**

Question 45

4 cao — **B1**

Answer: **4**

Question 46

red cao — **B1**

Answer: **red**

Question 47

11 + 4 = 15 seen — **M1**

14 cao — **A1**

Answer: **14**

Question 48

1 cao — **B1**

Answer: **1**

Question 49

4 cao — **B1**

Answer: **4**

Question 50

2 cao — **B1**

Answer: **2**

Question 51

13 + 5 = 18 seen — **M1**

15 cao — **A1**

Answer: **15**

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Question 52

one move tracked correctly **M1**

column 1, row 1 cao **A1**

Answer: **column 1, row 1**

Question 53

square cao **B1**

Answer: **square**

Question 54

5 + 6 = 11 seen **M1**

10 cao **A1**

Answer: **10**

Question 55

2D cao **B1**

Answer: **2D**

Question 56

octagon cao **B1**

Answer: **octagon**

Question 57

2D cao **B1**

Answer: **2D**

Question 58

hen cao **B1**

Answer: **hen**

Question 59

dog cao **B1**

Answer: **dog**

Question 60

(a) A cao **B1**

(a) Answer: **A**

(b) correct reason given oe, e.g. all of its faces are flat/straight, or it has no curved surface, unlike the cone, cylinder and sphere **B1**

(b) Answer: **All of the cube's faces are flat, so it has no curved surface, unlike the other three shapes.**

Question 61

rabbit cao **B1**

Answer: **rabbit**

Question 62

3 cao **B1**

Answer: **3**

Question 63

west cao **B1**

Answer: **west**

Question 64

south cao **B1**

Answer: **south**

Question 65

0 cao **B1**

Answer: **0**

Question 66

Kofi cao **B1**

Answer: **Kofi**

Question 67

one move tracked correctly **M1**

column 0, row 2 cao **A1**

Answer: **column 0, row 2**

Question 68

Reece cao **B1**

Answer: **Reece**

Question 69

2 cao **B1**

Answer: **2**

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