

YanBo Free 11+ Maths Mock Test

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Subject: Maths

Areas covered: Measurement; Number & Place Value; Four Operations; Fractions, Decimals & Percentages; Shape & Space; Data Handling; Algebra & Reasoning

Difficulty: Medium

Time allowed: 50 minutes

Questions: 50

Student name:

Date completed:

Score:

Read the following with your child:

1. This is a multiple-choice paper. Mark only one answer for each question on the separate answer sheet.
2. Draw a firm line clearly through the rectangle next to your answer, like . If you make a mistake, rub it out completely and put in your new answer.
3. Keep your place in the correct section of the answer sheet. Mark your answer in the box with the same number as the question.
4. You may find some questions difficult. If you cannot do a question, do not waste time on it. Go on to the next one and choose the answer you think is best.
5. **Work as quickly and as carefully as you can.**

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Questions

Question 1. The clock shows when a music lesson began. The warm-up lasted 20 minutes and the main lesson lasted $\frac{1}{2}$ hour. What time did the lesson finish?

Start time



A. 4:40

B. 4:30

C. 4:45

D. 4:50

Question 2. Light A flashes every 9 minutes and Light B every 12 minutes. They flash together at 16:20. When will they next flash together?

A. 16:44

B. 16:50

C. 17:02

D. 16:56

Question 3. A parcel contains three packets, each weighing 1.85 kg, plus 720 g of packaging. What is the total mass of the parcel?

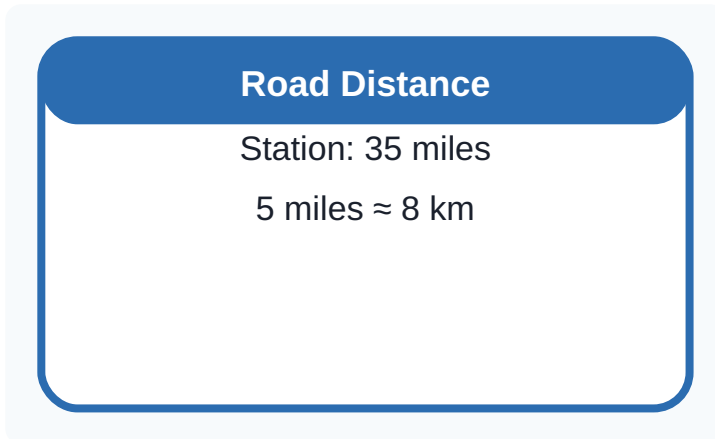
A. 5.82 kg

B. 6.27 kg

C. 6.42 kg

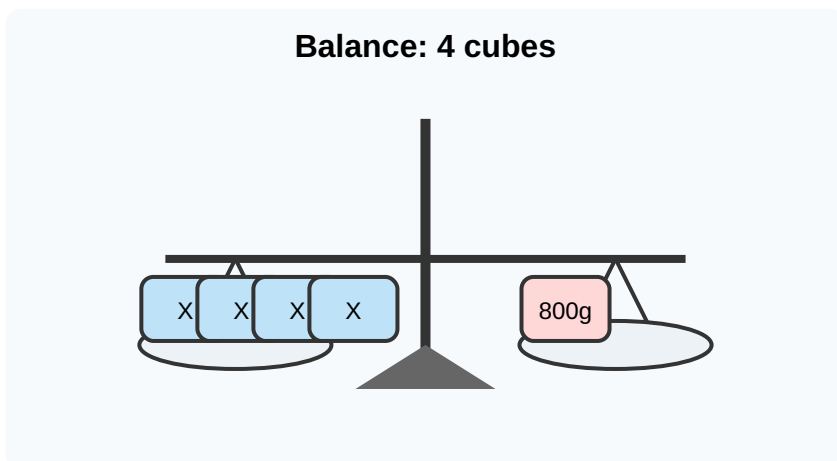
D. 7.20 kg

Question 4. Use the road distance card. Approximately how many kilometres away is the station?



- A. 48 km B. 52 km C. 56 km D. 70 km

Question 5. Use the balance to find the mass of one cube. What would three cubes and an extra 150 g mass weigh altogether?



- A. 650 g B. 750 g C. 800 g D. 950 g

Question 6. A 1.8 litre bottle is poured into cups that hold 225 ml. How many full cups can be filled?

Water Bottle

Bottle holds 1.8 l

Cups hold 225 ml each

How many full cups?

A. 6

B. 7

C. 8

D. 9

Question 7. Use the faulty-clock information shown. What exact time will the clock display when the true time is 11:00?

Faulty clock

Correct at 07:30

Loses 5 min/hour

True time 11:00

A. 10:41:30

B. 10:43:30

C. 10:42:30

D. 10:45:00

Question 8. A notebook is 18 mm thick. A stack of 35 notebooks is made. How tall is the stack in centimetres?

A. 63 cm

B. 6.3 cm

C. 630 cm

D. 0.63 cm

Question 9. A bag contains 5 kg 80 g of rice. The rice is divided equally between 8 containers. How much rice is in each container?

A. 580 g

B. 508 g

C. 625 g

D. 635 g

Question 10. $8,546 = 7,000 + \underline{\hspace{1cm}}$. What is the missing amount?

- A. 1,456 B. 1,500 C. 1,506 D. 1,546

Question 11. $P = 83,600 + 25$, $Q = 84,000 - 390$, $R = 83,500 + 90$ and $S = 83,700 - 120$. Which order is smallest to largest?

- A. P, Q, R, S B. R, S, Q, P C. S, R, Q, P D. S, Q, R, P

Question 12. Increase 51,598 by 1,000, then decrease the result by 100. What is the final number?

- A. 52,498 B. 52,598 C. 51,498 D. 50,498

Question 13. Which number is exactly halfway between 620,000 and 624,000?

- A. 621,000 B. 623,000 C. 622,500 D. 622,000

Question 14. In 305,608, which digit change increases the number by 3,000?

- | | | | |
|--|---|---|---|
| A. Change the
hundreds digit from 6
to 9 | B. Change the ones
digit from 8 to 3 | C. Change the
thousands digit from 5
to 8 | D. Change the
hundred-thousands
digit from 3 to 6 |
|--|---|---|---|

Question 15. In 9,146,760, the hundreds digit is 7. If it is changed to 2, how much smaller is the number?

- A. 5,000 B. 70 C. 500 D. 700

Question 16. 1,543,292 is rounded to the nearest 100 and to the nearest 1,000. Which pair of rounded values is correct?

- | | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| A. 1,543,300 and
1,543,000 | B. 1,543,200 and
1,544,000 | C. 1,543,300 and
1,544,000 | D. 1,543,000 and
1,543,300 |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|

Question 17. Use $46 \times 20 = 920$ to work out 46×19 .

- A. 864 B. 874 C. 884 D. 966

Question 18. Complete the calculation: $\square \div 14 - 8 = 72$.

- A. 1,120 B. 1,008 C. 1,134 D. 896

Question 19. Divide 1,680 by 14, then multiply the result by 6.

- A. 680 B. 720 C. 740 D. 840

Question 20. 840 stickers are shared equally among 7 pupils. Each pupil then receives another 36 stickers. How many stickers does each pupil have?

- A. 146 B. 166 C. 176 D. 156

Question 21. 2,350 pupils travel in coaches that each hold 48 pupils. What is the minimum number of coaches needed?

- A. 47 B. 48 C. 50 D. 49

Question 22. What is $3,486 - 1,698$?

- A. 1778 B. 1988 C. 1588 D. 1788

Question 23. In the number 7.325, what is 100 times the value of the digit 5?

- A. 0.5 B. 5 C. 0.05 D. 50

Question 24. Five sixths of 132 tickets are sold. Twenty per cent of the sold tickets are later refunded. How many sold tickets remain valid?

- A. 110 B. 88 C. 22 D. 132

Question 25. Which sign makes this statement true: $22/23$ ___ $17/20$?

- A. > B. < C. = D. None of these

Question 26. Write $39/40$ as a percentage.

- A. 97.5% B. 975% C. 9.75% D. 0.975%

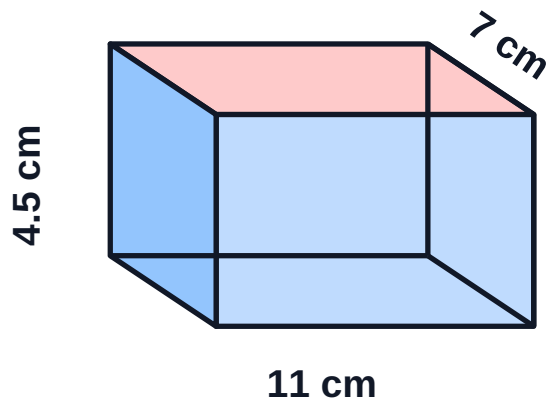
Question 27. An item costs £40. Its price increases by 30%, then a £6 discount is applied. What is the final price?

- A. £34 B. £52 C. £46 D. £28

Question 28. Mia has 90 pages to read. She reads $5/6$ of them, then reads 40% of the pages that remain. How many pages are still unread?

- A. 6 B. 15 C. 12 D. 9

Question 29. What is the total surface area of the cuboid?

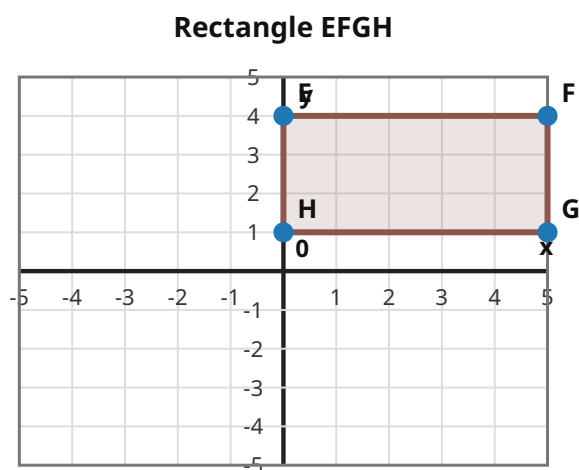


- A. 248 cm^2 B. 291 cm^2 C. 307 cm^2 D. 316 cm^2

Question 30. A shape is reflected in the y-axis. Then the image is translated 3 units down. Point P starts at $(-5, 4)$. Where does P end up?

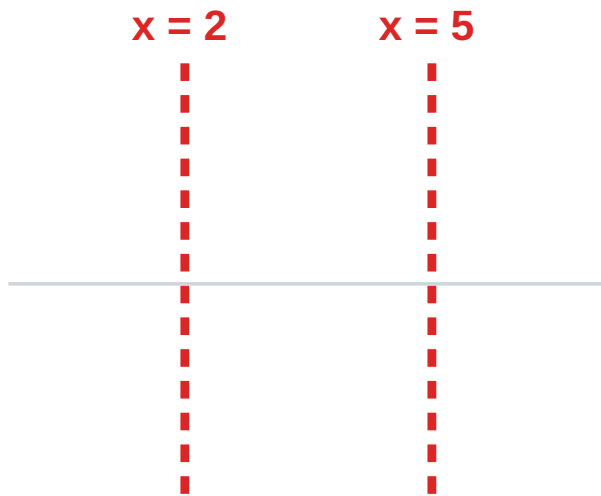
- A. $(5, 7)$ B. $(-5, 1)$ C. $(5, 1)$ D. $(-2, 4)$

Question 31. Rectangle EFGH is shown. Vertex G is reflected in the y-axis and then translated 2 units right. Where does G finish?



- A. $(-3, 1)$ B. $(-7, 1)$ C. $(3, 1)$ D. $(-5, 3)$

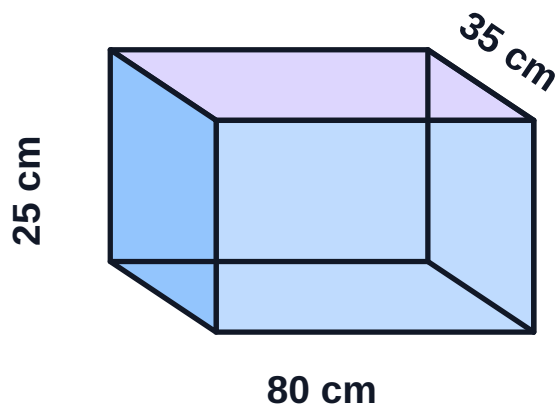
Question 32. A shape is reflected in the vertical line $x = 2$ and then reflected in the vertical line $x = 5$. Which single transformation has the same overall effect?



reflect in $x = 2$, then in $x = 5$

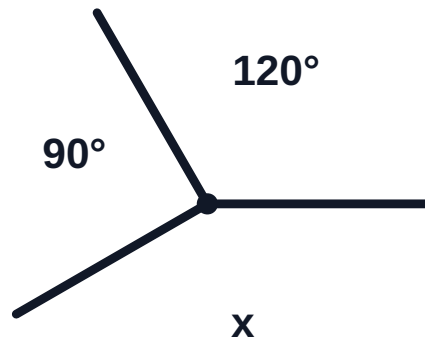
- A.** A translation 3 units right **B.** A translation 6 units left **C.** A translation 6 units right **D.** No movement

Question 33. The tank is 60% full. How many litres of water does it contain?



- A.** 35 litres **B.** 49 litres **C.** 42 litres **D.** 56 litres

Question 34. A regular hexagon angle of 120° and a square angle of 90° meet at a point. What is the remaining angle?



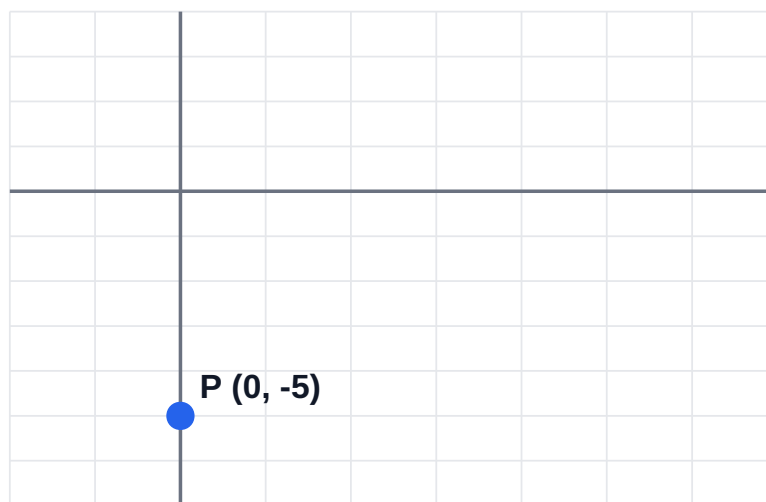
A. 120°

B. 130°

C. 140°

D. 150°

Question 35. Point P is at $(0, -5)$. It is translated by the vector $(3, 4)$ and then reflected in the x-axis. What are its final coordinates?



translate by $(3, 4)$, then reflect in the x-axis

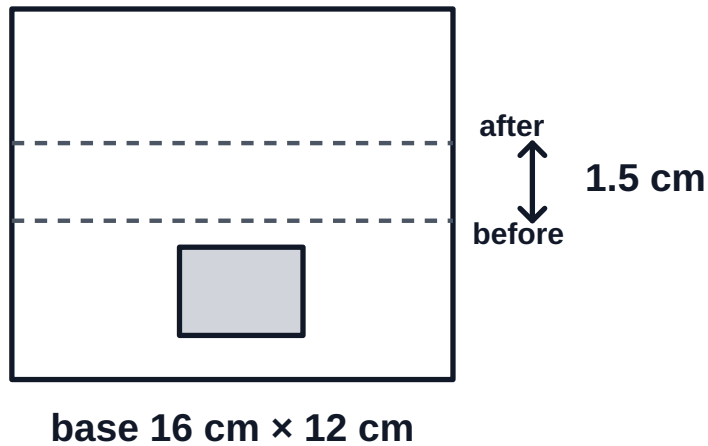
A. $(3, 1)$

B. $(-3, 1)$

C. $(3, -1)$

D. $(-3, -1)$

Question 36. The diagram shows that an object raises the water level by 1.5 cm in a container with base 16 cm by 12 cm. The same object is placed in a container with base 24 cm by 12 cm. By how much will the water level rise?



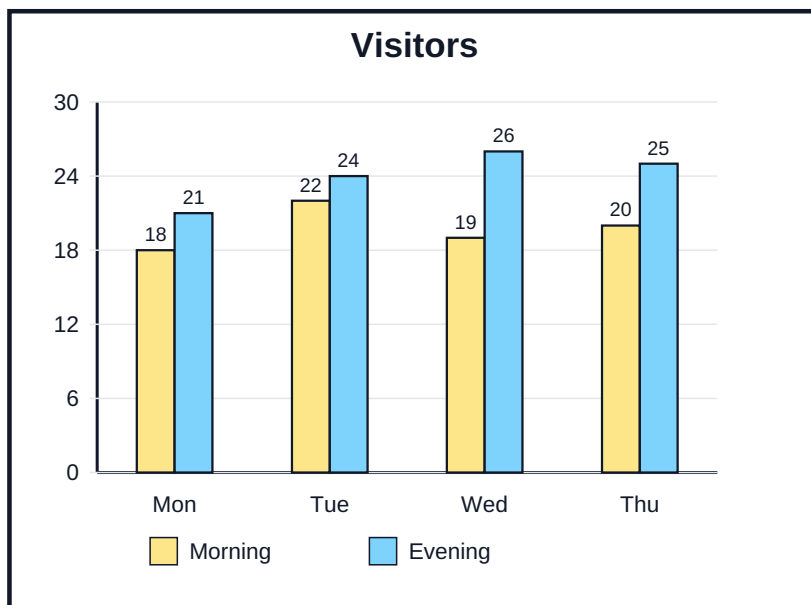
A. 0.5 cm

B. 1.5 cm

C. 1 cm

D. 2 cm

Question 37. The grouped bar chart shows numbers of visitors. On which day was the evening number exactly 5 more than the morning number?



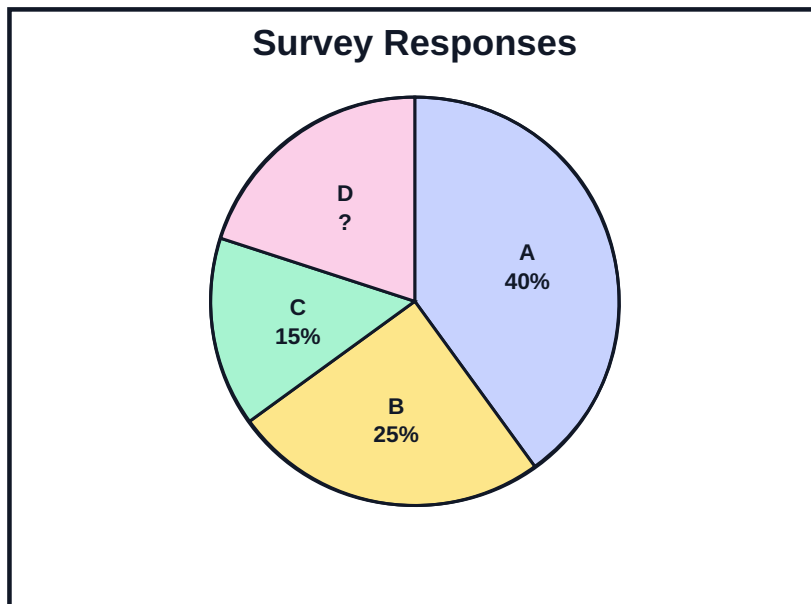
A. Monday

B. Tuesday

C. Wednesday

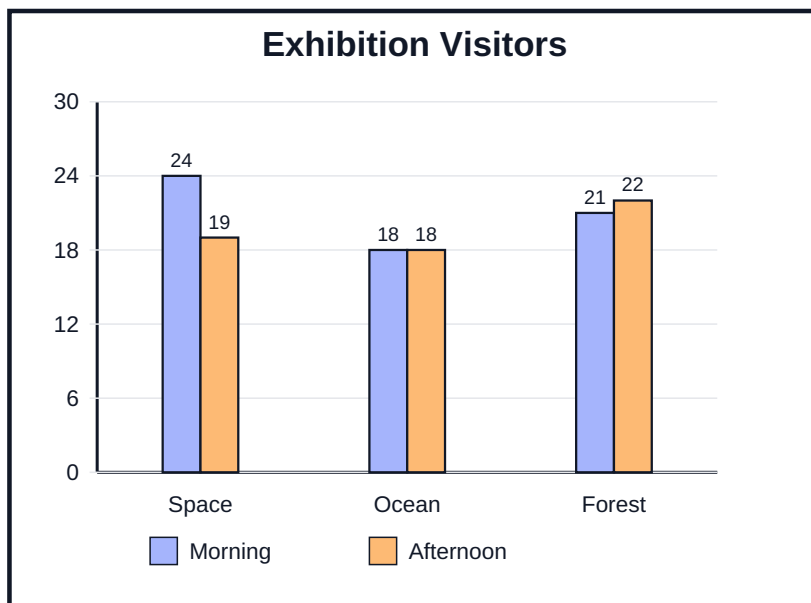
D. Thursday

Question 38. The pie chart shows 240 survey responses. How many more people chose Option A than the missing Option D?



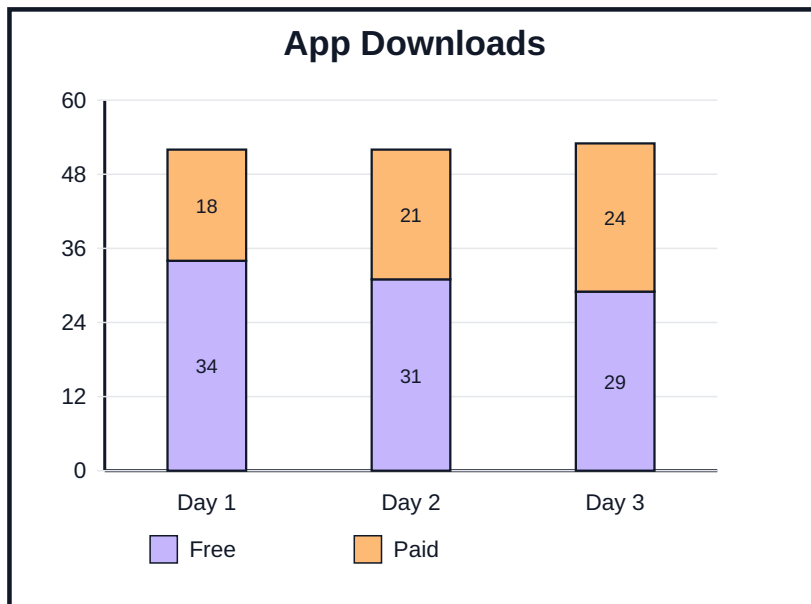
- A. 36 B. 42 C. 48 D. 54

Question 39. The grouped bar chart shows visitors to two exhibitions. How many more visitors went to the Space exhibition than the Ocean exhibition altogether?



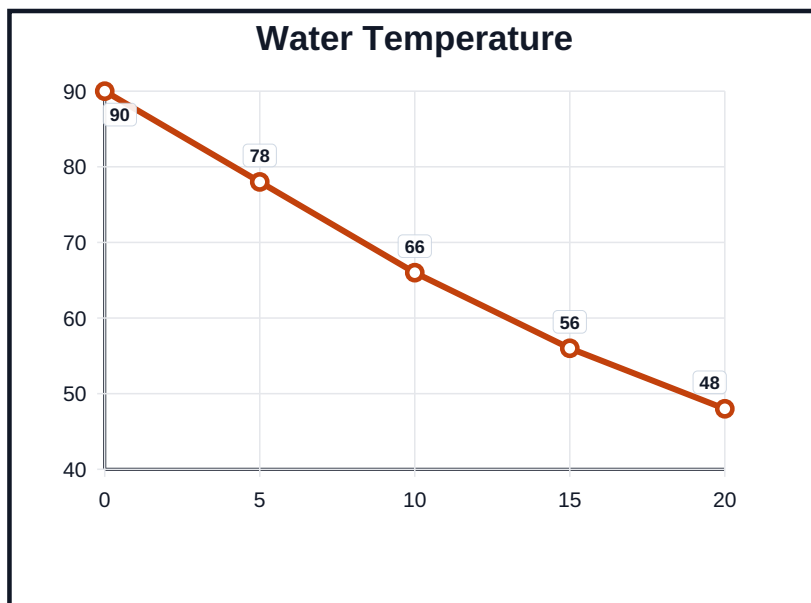
- A. 7 B. 5 C. 3 D. 9

Question 40. The stacked bar chart shows app downloads. If each paid download earns £2, how much was earned from paid downloads on Day 3?



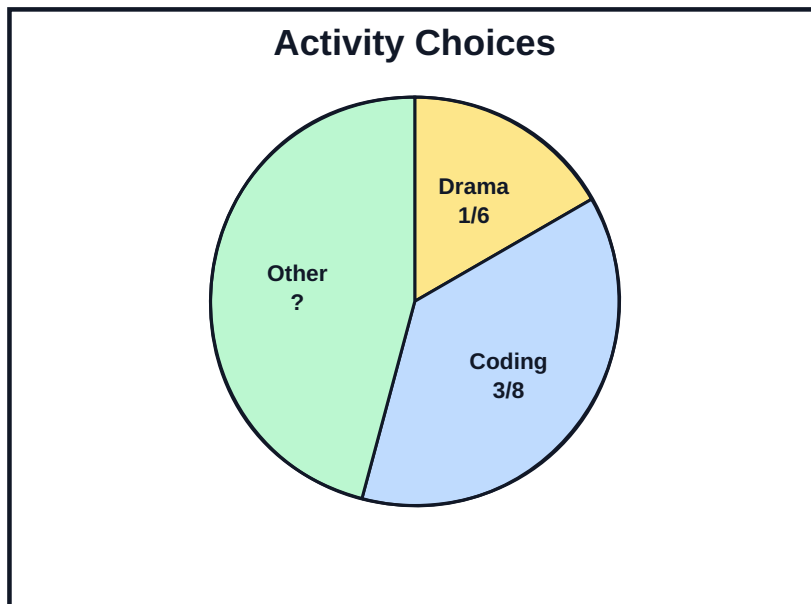
- A. £36 B. £40 C. £44 D. £48

Question 41. The line graph shows the temperature of water in a kettle after it is switched off. How much more did the temperature fall from 0 to 10 minutes than from 10 to 20 minutes?



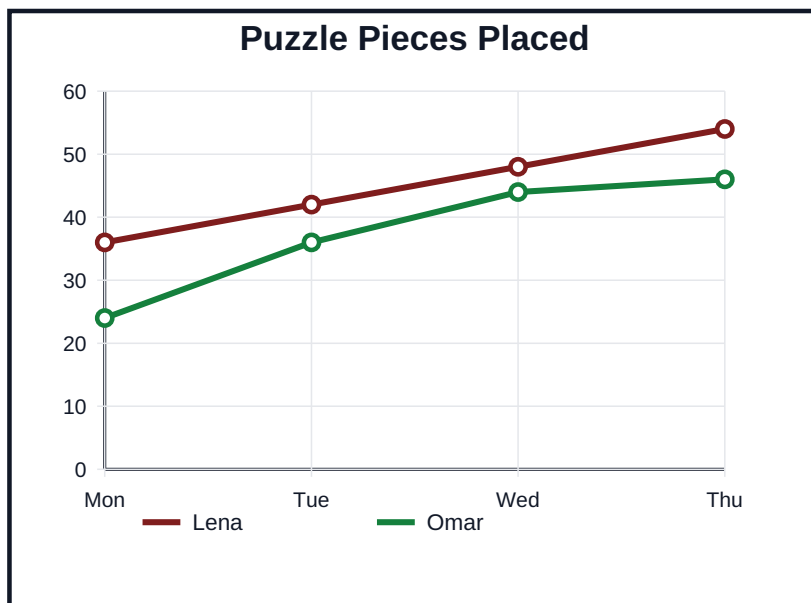
- A. 4°C B. 6°C C. 8°C D. 10°C

Question 42. The whole pie chart represents 144 children. Drama is $\frac{1}{6}$ and Coding is $\frac{3}{8}$. How many children chose Drama or Coding?



- A. 66 B. 72 C. 78 D. 84

Question 43. The comparative graph shows the number of puzzle pieces placed by two pupils. On which day was the difference between them greatest?



- A. Monday B. Tuesday C. Wednesday D. Thursday

Question 44. The comparisons show $M = 2.5N$ and $N = 2P$. If M weighs 15 kg, how much does P weigh?

Balance comparisons

$$M = 2.5N$$

$$N = 2P$$

$$M = ? P$$

A. 2.5 kg

B. 3 kg

C. 6 kg

D. 7.5 kg

Question 45. Five separate octagons would use 40 matchsticks. If five octagons are joined in the same way as the diagram, how many matchsticks are saved?

Joined octagon matchsticks



Stage 1



Stage 2



Stage 3

A. 4

B. 5

C. 6

D. 7

Question 46. Use the stationery totals shown. How much do two notebooks cost?

Stationery totals

3 notebooks + 2 pens = £8.40

3 notebooks + 1 pen = £6.75

2 notebooks = ?

A. £2.70

B. £3.30

C. £3.60

D. £3.40

Question 47. Jay, Kim and Lou each have a different colour card — green, blue or red — and a different percentage card — 40%, 60% or 80%. Jay has green. Kim has 80%. The blue card is paired with 60%. Who has blue?

Colour and percent grid

	Green	Blue	Red
Jay			
Kim			
Lou			

A. Jay

B. Kim

C. Lou

D. Cannot tell

Question 48. A pattern has 6 dots in Stage 1, 10 dots in Stage 2 and 14 dots in Stage 3. How many dots are in Stage 8?

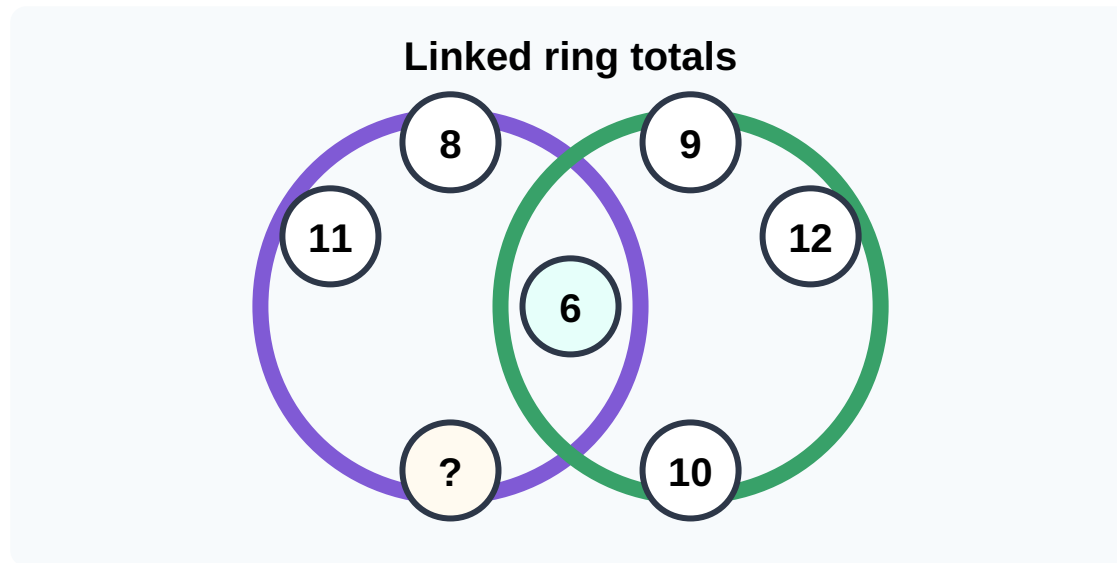
A. 30

B. 32

C. 36

D. 34

Question 49. The numbers in each linked ring have the same total. After finding the missing number, what is the sum of the two bottom numbers?



- A. 20 B. 22 C. 23 D. 24

Question 50. A storage area can hold at most 110 boxes. There are x large boxes, twice as many small boxes, and 20 other boxes. Which inequality represents this?

- A. $2x + 20 \leq 110$ B. $3x + 20 \leq 110$ C. $3x - 20 \leq 110$ D. $20x + 3 \leq 110$

End of questions

Student answer sheet

Name: _____

Date: _____

Test: YanBo Free 11+ Maths Mock Test

Score: _____ / 50

Draw one clear horizontal line through the rectangle next to your answer, like  .

1 A ☐ B ☐ C ☐ D ☐	2 A ☐ B ☐ C ☐ D ☐	3 A ☐ B ☐ C ☐ D ☐	4 A ☐ B ☐ C ☐ D ☐	5 A ☐ B ☐ C ☐ D ☐	6 A ☐ B ☐ C ☐ D ☐	7 A ☐ B ☐ C ☐ D ☐	8 A ☐ B ☐ C ☐ D ☐
9 A ☐ B ☐ C ☐ D ☐	10 A ☐ B ☐ C ☐ D ☐	11 A ☐ B ☐ C ☐ D ☐	12 A ☐ B ☐ C ☐ D ☐	13 A ☐ B ☐ C ☐ D ☐	14 A ☐ B ☐ C ☐ D ☐	15 A ☐ B ☐ C ☐ D ☐	16 A ☐ B ☐ C ☐ D ☐
17 A ☐ B ☐ C ☐ D ☐	18 A ☐ B ☐ C ☐ D ☐	19 A ☐ B ☐ C ☐ D ☐	20 A ☐ B ☐ C ☐ D ☐	21 A ☐ B ☐ C ☐ D ☐	22 A ☐ B ☐ C ☐ D ☐	23 A ☐ B ☐ C ☐ D ☐	24 A ☐ B ☐ C ☐ D ☐
25 A ☐ B ☐ C ☐ D ☐	26 A ☐ B ☐ C ☐ D ☐	27 A ☐ B ☐ C ☐ D ☐	28 A ☐ B ☐ C ☐ D ☐	29 A ☐ B ☐ C ☐ D ☐	30 A ☐ B ☐ C ☐ D ☐	31 A ☐ B ☐ C ☐ D ☐	32 A ☐ B ☐ C ☐ D ☐
33 A ☐ B ☐ C ☐ D ☐	34 A ☐ B ☐ C ☐ D ☐	35 A ☐ B ☐ C ☐ D ☐	36 A ☐ B ☐ C ☐ D ☐	37 A ☐ B ☐ C ☐ D ☐	38 A ☐ B ☐ C ☐ D ☐	39 A ☐ B ☐ C ☐ D ☐	40 A ☐ B ☐ C ☐ D ☐
41 A ☐ B ☐ C ☐ D ☐	42 A ☐ B ☐ C ☐ D ☐	43 A ☐ B ☐ C ☐ D ☐	44 A ☐ B ☐ C ☐ D ☐	45 A ☐ B ☐ C ☐ D ☐	46 A ☐ B ☐ C ☐ D ☐	47 A ☐ B ☐ C ☐ D ☐	48 A ☐ B ☐ C ☐ D ☐
49 A ☐ B ☐ C ☐ D ☐	50 A ☐ B ☐ C ☐ D ☐						

Questions and Answers

Q	A	Explanation
1	A	The clock shows 3:50. 20 minutes + $\frac{1}{2}$ hour is $20 + 30 = 50$ minutes. 3:50 plus 50 minutes is 4:40.
2	D	The lowest common multiple of 9 and 12 is 36. 16:20 plus 36 minutes is 16:56.
3	B	Three packets weigh $3 \times 1.85 \text{ kg} = 5.55 \text{ kg}$. Also, $720 \text{ g} = 0.72 \text{ kg}$. Therefore, the total mass is $5.55 \text{ kg} + 0.72 \text{ kg} = 6.27 \text{ kg}$.
4	C	5 miles $\approx$ 8 km. 35 miles is 7 groups of 5 miles, so $7 \times 8 = 56 \text{ km}$.
5	B	Four cubes balance 800 g, so each cube has a mass of $800 \div 4 = 200 \text{ g}$. Three cubes weigh 600 g, and adding 150 g gives 750 g.
6	C	1.8 litres = 1800 ml. $1800 \div 225 = 8$, so 8 full cups can be filled.
7	C	From 07:30 to 11:00 is 3.5 hours. At 5 minutes lost per hour, the clock loses $3.5 \times 5 = 17.5$ minutes, which is 17 minutes 30 seconds. Therefore it displays 10:42:30.
8	A	$18 \times 35 = 630 \text{ mm}$. Since $10 \text{ mm} = 1 \text{ cm}$, $630 \text{ mm} = 63 \text{ cm}$.
9	D	$5 \text{ kg } 80 \text{ g} = 5080 \text{ g}$. Dividing equally between 8 containers gives $5080 \div 8 = 635 \text{ g}$.
10	D	$8,546 - 7,000 = 1,546$.
11	C	The values are $P = 83,625$, $Q = 83,610$, $R = 83,590$ and $S = 83,580$. The ascending order is S, R, Q, P.
12	A	$51,598 + 1,000 = 52,598$, then subtracting 100 gives 52,498.
13	D	The difference is 4,000. Half of 4,000 is 2,000, so the halfway number is 622,000.
14	C	Changing the thousands digit from 5 to 8 increases its value by 3,000.
15	C	The hundreds value changes from 700 to 200, so the number is 500 smaller.
16	A	To the nearest 100, 1,543,292 is 1,543,300. To the nearest 1,000, it is 1,543,000.
17	B	46×19 is one group of 46 less than 46×20 . So $920 - 46 = 874$.
18	A	Add 8 first: $72 + 8 = 80$. Then $80 \times 14 = 1,120$.
19	B	$1,680 \div 14 = 120$. Then $120 \times 6 = 720$.
20	D	$840 \div 7 = 120$. Then $120 + 36 = 156$.
21	D	48 coaches hold 2,304 pupils, which is not enough. One more coach is needed, so 49 coaches are required.

Q	A	Explanation
22	D	Subtract 1,698 from 3,486 to get 1,788.
23	A	The digit 5 is in the thousandths place, so its value is 0.005. Multiplying 0.005 by 100 gives 0.5.
24	B	Five sixths of 132 is 110 tickets. Twenty per cent of 110 is 22, so $110 - 22 = 88$ sold tickets remain valid.
25	A	Cross-multiply: $22 \times 20 = 440$ and $17 \times 23 = 391$, so $22/23 > 17/20$.
26	A	First divide the numerator by the denominator, then multiply by 100: $39 \div 40 = 0.975$ and $0.975 \times 100 = 97.5\%$.
27	C	Thirty per cent of £40 is £12, so the increased price is £52. After the £6 discount, the final price is £46.
28	D	Five sixths of 90 is 75, leaving 15 pages. Mia then reads 40% of 15, which is 6 pages, leaving $15 - 6 = 9$ pages.
29	D	Surface area = $2(11 \times 7 + 11 \times 4.5 + 7 \times 4.5) = 2(77 + 49.5 + 31.5) = 316 \text{ cm}^2$.
30	C	Reflecting in the y-axis changes (-5, 4) to (5, 4). Moving 3 down gives (5, 1).
31	A	G is at (5, 1). Reflection in the y-axis gives (-5, 1). Translating 2 units right gives (-3, 1).
32	C	Two reflections in parallel lines give a translation twice the distance between the lines. The lines are 3 units apart, so the overall effect is a translation 6 units to the right.
33	C	The full tank holds $80 \times 35 \times 25 = 70,000 \text{ cm}^3 = 70 \text{ litres}$. 60% of 70 litres is 42 litres.
34	D	Angles around a point total 360° . The remaining angle is $360^\circ - 120^\circ - 90^\circ = 150^\circ$.
35	A	The translation gives (3, -1). Reflection in the x-axis changes the sign of the y-coordinate, giving (3, 1).
36	C	The object's volume is $16 \times 12 \times 1.5 = 288 \text{ cm}^3$. The new base area is $24 \times 12 = 288 \text{ cm}^2$, so the rise is $288 \div 288 = 1 \text{ cm}$.
37	D	Differences are Monday 3, Tuesday 2, Wednesday 7 and Thursday 5. So the answer is Thursday.
38	C	Known percentages are A 40%, B 25%, C 15%. Missing D = 20%. Option A is 40% of 240 = 96. Option D is 20% of 240 = 48. Difference = 48.
39	A	Space total is $24 + 19 = 43$. Ocean total is $18 + 18 = 36$. Difference = $43 - 36 = 7$.
40	D	Day 3 has 24 paid downloads. Each earns £2, so $24 \times £2 = £48$.
41	B	From 0 to 10 minutes, the temperature fell from 90°C to 66°C , a fall of 24°C . From 10 to 20 minutes, it fell from 66°C to 48°C , a fall of 18°C . Difference = $24 - 18 = 6^\circ\text{C}$.
42	C	Drama and Coding together are $1/6 + 3/8 = 4/24 + 9/24 = 13/24$. $13/24$ of 144 = 78.

Q	A	Explanation
43	A	Differences are Monday 12, Tuesday 6, Wednesday 4 and Thursday 8. The greatest difference is on Monday.
44	B	Since $M = 2.5N$ and $N = 2P$, $M = 5P$. Therefore $P = 15 \div 5 = 3$ kg.
45	A	One octagon uses 8 sticks and each extra joined octagon adds 7, so five joined octagons use $8 + 4 \times 7 = 36$ sticks. The saving is $40 - 36 = 4$.
46	D	Subtracting the totals shows that one pen costs £1.65. Therefore three notebooks cost $\text{£}6.75 - \text{£}1.65 = \text{£}5.10$, so one notebook costs £1.70. Two notebooks cost £3.40.
47	C	Jay already has green. Kim has 80%, so Kim cannot have the blue card because blue is paired with 60%. Therefore Lou has blue.
48	D	The pattern increases by 4 each stage. Stage 8 is $6 + 7 \times 4 = 34$.
49	B	The right ring totals $9 + 12 + 6 + 10 = 37$. The missing number is 12, so the two bottom numbers total $12 + 10 = 22$.
50	B	There are x large boxes and $2x$ small boxes, giving $3x$ boxes, plus 20 other boxes. Since the area can hold at most 110 boxes, the inequality is $3x + 20 \leq 110$.

End of answers