

Sutton Selective Eligibility Test (SET) — Style Practice

Mathematics

MULTIPLE-CHOICE PAPER · PRACTICE PAPER 12

Time allowed	50 minutes
Number of questions	58
Total marks	58
Equipment	Pencil and eraser only

Candidate details

Name: _____

School: _____ Date: _____

Instructions to candidates

1. Do not open this booklet until you are told to do so.
2. Write your name, school and the date in the spaces on this cover.
3. This paper has 58 questions. You have 50 minutes.
4. Each question has five answers, labelled **A** to **E**. Choose the **one** best answer.
5. Mark your answer by filling the matching **lozenge** on the Answer Sheet at the back of the booklet.
6. Use a pencil. To change an answer, rub it out fully and fill your new lozenge.
7. You may do rough working in the space beside each question. Calculators are not allowed.
8. If a question is difficult, leave it and come back to it later. Try to answer every question.

DO NOT TURN OVER UNTIL YOU ARE TOLD TO BEGIN

Mathematics

Answer all 58 questions. Choose the one best answer for each and fill it on the Answer Sheet at the back.

Example

X. What is $24 \div 4$? A 4 B 5 C 6 D 7 E 8

The answer is 6 (answer C), so you would fill lozenge C: (A) (B) (C) (D) (E)

- 1 A whole number, rounded to the nearest **hundred**, is **2,500**. What is the **largest** whole number it could have been?
A 2,599 B 2,500 C 2,549 D 2,450 E 2,550
- 2 Which of these has the **largest** value? **71%, 5/8, 9/10, 40%, 3/4**
A 3/4 B 71% C 5/8 D 40% E 9/10
- 3 In the number **808**, the value of the **8** on the left is how many **times greater** than the value of the **8** on the right?
A 100 B 8 C 1000 D 10 E 2
- 4 How many whole numbers from **1 to 100** are **multiples of 4** but **not** multiples of **10**?
A 5 B 26 C 10 D 25 E 20
- 5 Two bells ring every **15** and **4 minutes**. They ring together now. After how many minutes will they next ring **together**?
A 30 minutes B 60 minutes C 1 minutes D 19 minutes E 61 minutes
- 6 What is the side length of the **largest square tile** that can exactly tile a **30 cm by 45 cm** wall with no gaps or overlaps?
A 30 cm B 16 cm C 14 cm D 15 cm E 90 cm
- 7 What is **2/3 of 1/4 of 1/2 of 48**?
A 8 B 32 C 4 D 6 E 48
- 8 **2/3** of a number is **40**. What is **8/10** of the same number?
A 60 B 32 C 40 D 48 E 49
- 9 A jug is **5/6 full** of juice. Then **1/3** of the juice is poured out. What fraction of the jug is **now full**?
A 5/18 B 1/3 C 5/9 D 1/2 E 5/6
- 10 What is **4 1/4 – 2 1/2**?
A 2 3/4 B 6 3/4 C 1 1/2 D 2 E 1 3/4
- 11 Which of these fractions is the **largest**?
A 1/8 B 3/4 C 1/4 D 1/3 E 1/5
- 12 Write **0.125** as a **fraction in its simplest form**.
A 1/8 B 125/100 C 2/16 D 125/1000 E 8/1
- 13 A recipe needs **2 5/6** cups of flour for one batch. How many cups are needed for **3 batches**?
A 7 1/2 B 6 C 6 5/6 D 8 1/2 E 11 1/3
- 14 Work out: **9 – 1.8 × 2**
A 12.6 B 7.2 C 14.4 D 5.4 E 9.2

- 15** A jug holds **4** glasses of juice, each **0.35 litres**. How many **millilitres** of juice does the jug hold in total?
A 700 ml **B** 1,400 ml **C** 140 ml **D** 14,000 ml **E** 350 ml
- 16** A coat costs **£800**. Its price is reduced by **20%**, and then the new price is reduced by a further **50%** in a sale. What is the **final price**?
A £400 **B** £720 **C** £640 **D** £240 **E** £320
- 17** After a **20% increase**, a train ticket now costs **£240**. What was its price **before** the increase?
A £160 **B** £288 **C** £240 **D** £192 **E** £200
- 18** In a test, a pupil scored **15 marks out of 25**. What was this as a **percentage**?
A 61% **B** 15% **C** 60% **D** 40% **E** 10%
- 19** Two friends share some money in the ratio **7 : 3**. One receives **£28 more** than the other. How much is shared **altogether**?
A £70 **B** £98 **C** £21 **D** £49 **E** £28
- 20** It takes **3 builders 4 days** to build a wall. Working at the same rate, how many **days** would **2 builders** take to build the same wall?
A 6 **B** 12 **C** 3 **D** 4 **E** 7
- 21** A sum of money is shared between Amy, Ben and Cara in the ratio **3 : 5 : 6**. Cara receives **£30**. How much does **Amy** receive?
A £40 **B** £25 **C** £30 **D** £15 **E** £70
- 22** If $4(x - 3) = 2x + 6$, what is the value of **x**?
A 12 **B** 10 **C** 6 **D** 9 **E** 24
- 23** Adult tickets cost **£8** and child tickets cost **£3**. A group of **5 people** pays **£25** in total. How many **adults** are in the group?
A 5 **B** 1 **C** 4 **D** 3 **E** 2
- 24** I think of a number. I **multiply it by 3**, **subtract 4**, then **double** the result. My answer is **28**. What was my number?
A 7 **B** 14 **C** 6 **D** 5 **E** 9
- 25** The **n**th term of the sequence **10, 16, 22, 28, ...** is **$6n + 4$** . Which term is equal to **70**?
A the 11th **B** the 10th **C** the 13th **D** the 70th **E** the 12th
- 26** Look at the pattern: **2, 6, 11, 17, 24, ...** What is the **next** term?
A 33 **B** 32 **C** 34 **D** 31 **E** 28
- 27** A shop sells pens as **3 for £1.20** or as **10 for £3.70**. How much **cheaper per pen** is the better-value pack?
A 8p **B** 4p **C** 3p **D** 40p **E** 37p
- 28** Maya earns **£9 per hour** and works for **5 hours**. She spends **$\frac{1}{5}$** of her pay. How much does she have **left**?
A £10 **B** £9 **C** £36.01 **D** £36 **E** £45
- 29** A plumber charges a **£3 call-out fee** plus **£2.50 per hour**. What is the total bill for a job lasting **5 hours**?
A £18 **B** £27.50 **C** £15.50 **D** £5.50 **E** £12.50
- 30** A floor measures **200 cm by 250 cm**. It is covered exactly with square tiles of side **50 cm**. How many tiles are needed?
A 1000 **B** 4 **C** 21 **D** 9 **E** 20

- 31** A **1.6 litre** bottle of juice is poured into **300 ml** cups until no more full cups can be filled. How many **millilitres are left over**?
- A 200 ml B 400 ml C 100 ml D 300 ml E 5 ml
- 32** A car travels **60 km** in **1 hour 15 minutes**. What is its **average speed** in km/h?
- A 60 km/h B 48 km/h C 120 km/h D 42 km/h E 49 km/h
- 33** A coach drives **100 km in 2 hours**, then **240 km in 3 hours**. What is its **average speed** for the whole journey?
- A 65 km/h B 130 km/h C 80 km/h D 68 km/h E 170 km/h
- 34** A train journey takes **2 hours 10 minutes**. To arrive by **11:00**, what is the **latest time** the train can leave?
- A 13:10 B 07:50 C 08:50 D 09:00 E 10:50
- 35** The three angles of a triangle are in the ratio **1 : 1 : 1**. What is the size of the **largest** angle?
- A 61° B 60° C 30° D 120° E 59°
- 36** Four angles meet at a point. Three of them are **60°** , **100°** and **110°** . What is the size of the **fourth** angle?
- A 100° B 270° C 110° D 300° E 90°
- 37** A rectangle is **4 times as long as it is wide**. Its **perimeter is 40 cm**. What is its **area**?
- A 65 cm^2 B 20 cm^2 C 64 cm^2 D 40 cm^2 E 80 cm^2
- 38** A rectangle has an **area of 21 cm^2** and a **width of 3 cm**. What is its **perimeter**?
- A 20 cm B 10 cm C 14 cm D 21 cm E 12 cm
- 39** An L-shaped room is a **$7 \text{ m} \times 7 \text{ m}$** rectangle with a **$3 \text{ m} \times 4 \text{ m}$** rectangle cut out of one corner. What is its **floor area**?
- A 37 m^2 B 28 m^2 C 49 m^2 D 61 m^2 E 25 m^2
- 40** How many solid **2 cm cubes** fit exactly inside a box measuring **$4 \text{ cm} \times 6 \text{ cm} \times 4 \text{ cm}$** ?
- A 48 B 7 C 96 D 24 E 12
- 41** A water tank measures **$24 \text{ cm} \times 40 \text{ cm} \times 25 \text{ cm}$** . How many **litres** of water does it hold when full? (1 litre = 1000 cm^3)
- A 24000 litres B 24 litres C 240 litres D 89 litres E 25 litres

Questions 42–44 refer to the table below, which shows the number of pizzas a stall sold over four days.

Day	Mon	Tue	Wed	Thu
Pizzas sold	11	35	32	14

- 42** Using the table above, how many pizzas were sold **in total** over the four days?
- A 92 B 57 C 84 D 23 E 98
- 43** Using the table above, **how many more** pizzas were sold on the **busiest day** than on the **quietest day**?
- A 24 B 46 C 22 D 11 E 35
- 44** The stall also opens on Friday. To finish the week with a **5-day mean of 25** pizzas per day, how many pizzas must it sell on **Friday**?
- A 33 B 125 C 28 D 23 E 25
- 45** What are the coordinates of the **midpoint** of the line joining **(2, 9)** and **(10, 11)**?
- A (7, 10) B (6, 10) C (8, 2) D (10, 6) E (12, 20)

- 46** The point **(5, 2)** is **reflected in the y-axis**. What are the coordinates of its **image**?
A (5, -2) **B** (5, 3) **C** (-5, 2) **D** (2, 5) **E** (5, 2)
- 47** The **mean** of **6 numbers** is **11**. When one number is removed, the mean of the remaining numbers is **9**. What was the **number that was removed**?
A 2 **B** 11 **C** 9 **D** 21 **E** 45
- 48** A group of **5 children** has a mean age of **10**, and another group of **5 children** has a mean age of **14**. What is the **mean age of all the children together**?
A 14 **B** 13 **C** 10 **D** 12 **E** 60
- 49** What is the **median** of these numbers? **18, 7, 16, 8, 4, 9**
A 8 **B** 9.5 **C** 7.5 **D** 8.5 **E** 9
- 50** Two numbers have a **sum of 28** and a **difference of 10**. What is the **larger** number?
A 9 **B** 19 **C** 14 **D** 10 **E** 20
- 51** A purse holds **7 coins**, all **20p** or **50p**, worth **£2.30** in total. How many **50p coins** are there?
A 2 **B** 4 **C** 3 **D** 5 **E** 7
- 52** What is **$3^2 + 3^3$** ?
A 37 **B** 36 **C** 243 **D** 15 **E** 35
- 53** A shop sells **3 kinds of shirt**, **2 kinds of trousers** and **1 kinds of hat**. An outfit must have a shirt and trousers, and **may or may not** include a hat. How many **different outfits** are possible?
A 6 **B** 7 **C** 13 **D** 11 **E** 12
- 54** Work out: **$3 \times (5 + 2) - 3^2$**
A 12 **B** 17 **C** 15 **D** 8 **E** 30
- 55** Work out **XVIII + XXIV**. Give your answer as an **ordinary (Arabic) number**.
A 52 **B** 42 **C** 32 **D** 37 **E** 43
- 56** How many **lines of symmetry** does a **equilateral triangle** have?
A 2 **B** 0 **C** 6 **D** 4 **E** 3
- 57** A robot is facing **North-West**. It turns **135° anticlockwise**, then **45° anticlockwise**. Which direction is it now facing?
A South-East **B** North-East **C** South-West **D** North **E** West
- 58** At dawn the temperature is **-11°C**. By noon it has risen to **8°C**. By **how many degrees** did the temperature rise?
A -3°C **B** 19°C **C** 3°C **D** 11°C **E** -19°C

Answer Sheet

Name: _____ Date: _____

Fill the **lozenge** for each answer with a pencil. To change an answer, rub it out fully and fill your new choice.

Q	A	B	C	D	E
1	☐	☐	☐	☐	☐
2	☐	☐	☐	☐	☐
3	☐	☐	☐	☐	☐
4	☐	☐	☐	☐	☐
5	☐	☐	☐	☐	☐
6	☐	☐	☐	☐	☐
7	☐	☐	☐	☐	☐
8	☐	☐	☐	☐	☐
9	☐	☐	☐	☐	☐
10	☐	☐	☐	☐	☐
11	☐	☐	☐	☐	☐
12	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐
14	☐	☐	☐	☐	☐
15	☐	☐	☐	☐	☐
16	☐	☐	☐	☐	☐
17	☐	☐	☐	☐	☐
18	☐	☐	☐	☐	☐
19	☐	☐	☐	☐	☐
20	☐	☐	☐	☐	☐
21	☐	☐	☐	☐	☐
22	☐	☐	☐	☐	☐
23	☐	☐	☐	☐	☐
24	☐	☐	☐	☐	☐
25	☐	☐	☐	☐	☐
26	☐	☐	☐	☐	☐
27	☐	☐	☐	☐	☐
28	☐	☐	☐	☐	☐
29	☐	☐	☐	☐	☐

Q	A	B	C	D	E
30	☐	☐	☐	☐	☐
31	☐	☐	☐	☐	☐
32	☐	☐	☐	☐	☐
33	☐	☐	☐	☐	☐
34	☐	☐	☐	☐	☐
35	☐	☐	☐	☐	☐
36	☐	☐	☐	☐	☐
37	☐	☐	☐	☐	☐
38	☐	☐	☐	☐	☐
39	☐	☐	☐	☐	☐
40	☐	☐	☐	☐	☐
41	☐	☐	☐	☐	☐
42	☐	☐	☐	☐	☐
43	☐	☐	☐	☐	☐
44	☐	☐	☐	☐	☐
45	☐	☐	☐	☐	☐
46	☐	☐	☐	☐	☐
47	☐	☐	☐	☐	☐
48	☐	☐	☐	☐	☐
49	☐	☐	☐	☐	☐
50	☐	☐	☐	☐	☐
51	☐	☐	☐	☐	☐
52	☐	☐	☐	☐	☐
53	☐	☐	☐	☐	☐
54	☐	☐	☐	☐	☐
55	☐	☐	☐	☐	☐
56	☐	☐	☐	☐	☐
57	☐	☐	☐	☐	☐
58	☐	☐	☐	☐	☐

END OF PAPER