

11+ Maths Practice Paper

Year 6 · Advanced

Lesson 5.4: One-step and two-step linear equations

Read this with your child:

1. This paper has **27 questions** in two parts. Work through them in order. The questions get harder as you go.
2. **Part 1** is multiple choice. Choose **one** answer, A, B, C, D or E, and mark it on the separate answer sheet by drawing a firm line through the box next to its letter. If you change your mind, rub the line out completely and mark your new answer.
3. **Part 2** asks you to write your answer. Write it in the boxes on the answer sheet, **one digit in each box**, starting from the left.
4. If a question is hard, leave it and come back to it at the end.
5. You may use rough paper for working out. You may **not** use a calculator.
6. Suggested time: **35 minutes**.

The answer sheet is after the questions. The answers, with a short explanation of each, are at the back for a parent to mark with.

These are original practice questions written by Elite Learners in the style of 11+ entrance tests. They are not produced by, or connected with, GL Assessment or Cambridge University Press & Assessment (CEM).

Example

Here is an equation: $3(n + 2) = 21$

What number does the letter stand for?

A 5

B 17

C 9

D 21

E 8

Answer: A Divide both sides by 3: $n + 2 = 7$. Then take away 2 from both sides: $n = 5$. Check: $3 \times (5 + 2) = 21$.

The answer, A, has already been marked on your answer sheet.

Now turn over and start Part 1.

Part 1: Multiple choice

1

Here is an equation: $9n - 14 = 49$

What number does the letter stand for?

- A** 7 **B** 4 **C** 63 **D** 8 **E** 35
-

2

Here is an equation: $4(n + 3) = 36$

What number does the letter stand for?

- A** 9 **B** 33 **C** 24 **D** 3 **E** 6
-

3

Here is an equation: $50 = 6n + 8$

What number does the letter stand for?

- A** 42 **B** 9 **C** 6 **D** 7 **E** 8
-

4

Here is an equation: $n + 12 = 5$

What number does the letter stand for?

- A** 7 **B** 17 **C** -7 **D** -17 **E** -5
-

5

Here is an equation: $5(n - 2) = 35$

What is the first step to solve it?

- A** add 2 to both sides
B take away 2 from both sides
C multiply both sides by 5
D take away 5 from both sides
E divide both sides by 5
-

6

Here is an equation: $n \div 5 - 3 = 4$

What number does the letter stand for?

- A** 5 **B** 20 **C** 7 **D** 35 **E** 23
-

7

Here is an equation: $45 - n = 17$

What number does the letter stand for?

- A** 62 **B** 32 **C** 28 **D** 38 **E** 18
-

8

I think of a number, n . I add 7, then multiply by 3. The answer is 39.

Which equation is this?

- A** $3n + 7 = 39$
B $n + 7 + 3 = 39$
C $7n + 3 = 39$
D $7(n + 3) = 39$
E $3(n + 7) = 39$
-

9

A swimming club costs £15 to join, plus £6 for each visit. Ben pays £69 altogether for v visits, so $6v + 15 = 69$.

What number does the letter stand for?

- A** 9 **B** 14 **C** 54 **D** 7 **E** 11
-

10

I think of a number, n . I multiply it by 6, then take away 9. The answer is 45.

What is my number?

- A** 6 **B** 9 **C** 54 **D** 36 **E** 8
-

11

Here is an equation: $n \div 4 + 6 = 13$

What number does the letter stand for?

- A** 76 **B** 7 **C** 52 **D** 28 **E** 19

12

Here is an equation: $7(n - 3) = 42$

What number does the letter stand for?

A 3

B 9

C 6

D 39

E 45

13

Four of these equations have the same answer.

Which equation has a different answer?

A $3n + 1 = 25$

B $5n - 10 = 35$

C $2n - 4 = 12$

D $n \div 2 + 3 = 7$

E $4(n - 2) = 24$

14

Here is an equation: $84 = 4(n + 9)$

What number does the letter stand for?

A 30

B 3

C 75

D 12

E 21

15

Jo has £50. She buys 3 books that cost £ b each, and has £14 left.

Which equation fits the story?

A $3b - 14 = 50$

B $3(b + 14) = 50$

C $3b + 14 = 50$

D $b + 14 = 50$

E $3b = 50$

16

Jo has £50. She buys 3 books that cost £ b each, and has £14 left.

How many pounds does one book cost?

A 16

B 21

C 36

D 13

E 12

17

The temperature was t °C. It rose by 9 degrees to 4 °C, so $t + 9 = 4$.

What number does the letter stand for?

- A** 5 **B** -5 **C** 13 **D** -13 **E** -4
-

18

Here is an equation: $n \div 3 - 8 = 7$

What number does the letter stand for?

- A** 45 **B** 5 **C** 13 **D** 21 **E** 15
-

19

Sam solved $4n + 8 = 36$ like this:

$4n + 8 = 36$, so $n + 8 = 9$, so $n = 1$.

What did Sam do wrong?

- A** He divided by 4 before taking away 8
B He should have added 8 to both sides
C He took 8 from only one side
D Nothing: $n = 1$ is right
E He should have multiplied by 4
-

20

Here is an equation: $5n - 17 = 58$

What number does the letter stand for?

- A** 8 **B** 75 **C** 15 **D** 13 **E** 17

Part 2: Write your answer

21

Here is an equation: $8(n - 5) = 96$

What number does the letter stand for?

Write your answer in the boxes on the answer sheet, one digit in each box.

22

Here is an equation: $n \div 7 + 12 = 20$

What number does the letter stand for?

Write your answer in the boxes on the answer sheet, one digit in each box.

23

Here is an equation: $125 = 9n + 17$

What number does the letter stand for?

Write your answer in the boxes on the answer sheet, one digit in each box.

24

Here is an equation: $100 - n = 37$

What number does the letter stand for?

Write your answer in the boxes on the answer sheet, one digit in each box.

25

I think of a number. I take away 6, then multiply by 4. The answer is 52.

What is my number?

Write your answer in the boxes on the answer sheet, one digit in each box.

26

Four concert tickets cost £ a each, and there is a £18 booking fee. The total is £110, so $4a + 18 = 110$.

How many pounds does one ticket cost?

Write your answer in the boxes on the answer sheet, one digit in each box.

27

Here is an equation: $n \div 8 - 9 = 6$

What number does the letter stand for?

Write your answer in the boxes on the answer sheet, one digit in each box.

Answer sheet

11+ Maths Practice Paper · Year 6 · Lesson 5.4: One-step and two-step linear equations

Name

Draw a firm line through the box next to your answer, like the example.

Part 1: Multiple choice

Ex	A ☒	B ☐	C ☐	D ☐	E ☐
1	A ☐	B ☐	C ☐	D ☐	E ☐
2	A ☐	B ☐	C ☐	D ☐	E ☐
3	A ☐	B ☐	C ☐	D ☐	E ☐
4	A ☐	B ☐	C ☐	D ☐	E ☐
5	A ☐	B ☐	C ☐	D ☐	E ☐
6	A ☐	B ☐	C ☐	D ☐	E ☐
7	A ☐	B ☐	C ☐	D ☐	E ☐
8	A ☐	B ☐	C ☐	D ☐	E ☐
9	A ☐	B ☐	C ☐	D ☐	E ☐
10	A ☐	B ☐	C ☐	D ☐	E ☐
11	A ☐	B ☐	C ☐	D ☐	E ☐
12	A ☐	B ☐	C ☐	D ☐	E ☐
13	A ☐	B ☐	C ☐	D ☐	E ☐
14	A ☐	B ☐	C ☐	D ☐	E ☐
15	A ☐	B ☐	C ☐	D ☐	E ☐
16	A ☐	B ☐	C ☐	D ☐	E ☐
17	A ☐	B ☐	C ☐	D ☐	E ☐
18	A ☐	B ☐	C ☐	D ☐	E ☐
19	A ☐	B ☐	C ☐	D ☐	E ☐
20	A ☐	B ☐	C ☐	D ☐	E ☐

Part 2: Write your answer, one digit in each box

21			
22			
23			
24			
25			
26			
27			

Answers

For a parent to mark with. One mark for each question: the paper is out of 27. Talk through any your child got wrong, using the explanation.

Q	Answer	How to get it
1	A 7	Add 14 to both sides: $9n = 63$. Then divide both sides by 9: $n = 7$. Check: $9 \times 7 - 14 = 49$.
2	E 6	Divide both sides by 4: $n + 3 = 9$. Then take away 3: $n = 6$. Check: $4 \times (6 + 3) = 36$.
3	D 7	This is $6n + 8 = 50$ written the other way round. Take away 8: $6n = 42$. Divide by 6: $n = 7$.
4	C -7	Take away 12 from both sides: $n = 5 - 12$. Start at 5 on a number line and jump 12 down: $n = -7$.
5	E divide both sides by 5	The brackets mean the -2 happened first and the $\times 5$ happened last. Undo the last step first: divide by 5, so $n - 2 = 7$ and $n = 9$.
6	D 35	Add 3 to both sides: $n \div 5 = 7$. Then multiply both sides by 5: $n = 35$. Check: $35 \div 5 - 3 = 4$.
7	C 28	What do you take away from 45 to leave 17? $45 - 17 = 28$, so $n = 28$. Check: $45 - 28 = 17$.
8	E $3(n + 7) = 39$	The adding comes first, so it goes in brackets: $3(n + 7) = 39$. Then $n = 6$.
9	A 9	Take away 15 from both sides: $6v = 54$. Then divide both sides by 6: $v = 9$. Ben made 9 visits.
10	B 9	The equation is $6n - 9 = 45$. Add 9: $6n = 54$. Divide by 6: $n = 9$. My number is 9.
11	D 28	Take away 6 from both sides: $n \div 4 = 7$. Then multiply both sides by 4: $n = 28$. Check: $28 \div 4 + 6 = 13$.
12	B 9	Divide both sides by 7: $n - 3 = 6$. Then add 3: $n = 9$. Check: $7 \times (9 - 3) = 42$.
13	B $5n - 10 = 35$	Four of them give $n = 8$. The odd one out is $5n - 10 = 35$: it gives $5n = 45$, so $n = 9$.
14	D 12	This is $4(n + 9) = 84$ the other way round. Divide by 4: $n + 9 = 21$. Take away 9: $n = 12$.
15	C $3b + 14 = 50$	The books cost $3b$ pounds, and with the £14 left over that makes the £50 she had: $3b + 14 = 50$.
16	E 12	Take away 14 from both sides: $3b = 36$. Then divide both sides by 3: $b = 12$. Each book costs £12.
17	B -5	Take away 9 from both sides: $t = 4 - 9$. Start at 4 and jump 9 down: $t = -5$. It was -5°C at first.
18	A 45	Add 8 to both sides: $n \div 3 = 15$. Then multiply both sides by 3: $n = 45$. Check: $45 \div 3 - 8 = 7$.
19	A He divided by 4 before taking away 8	Undo the $+8$ first: $4n = 28$, so $n = 7$. Sam divided before taking away the 8, and he did not divide the 8. Check: $4 \times 1 + 8 = 12$, not 36.

Q	Answer	How to get it
20	C 15	Add 17 to both sides: $5n = 75$. Then divide both sides by 5: $n = 15$. Check: $5 \times 15 - 17 = 58$.
21	17	Divide both sides by 8: $n - 5 = 12$. Then add 5: $n = 17$. Check: $8 \times (17 - 5) = 96$.
22	56	Take away 12 from both sides: $n \div 7 = 8$. Then multiply both sides by 7: $n = 56$. Check: $56 \div 7 + 12 = 20$.
23	12	This is $9n + 17 = 125$ the other way round. Take away 17: $9n = 108$. Divide by 9: $n = 12$.
24	63	What do you take away from 100 to leave 37? $100 - 37 = 63$, so $n = 63$. Check: $100 - 63 = 37$.
25	19	The equation is $4(n - 6) = 52$. Divide by 4: $n - 6 = 13$. Add 6: $n = 19$. The number is 19.
26	23	Take away 18 from both sides: $4a = 92$. Then divide both sides by 4: $a = 23$. One ticket costs £23.
27	120	Add 9 to both sides: $n \div 8 = 15$. Then multiply both sides by 8: $n = 120$. Check: $120 \div 8 - 9 = 6$.

Score: out of 27