

11+ Maths Practice Paper

Year 6 · Advanced

Lesson 3.8: Percentage changes

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

After 20% off, a coat costs £48.

What did the coat cost before?

A £57.60

B £60

C £68

D £38.40

E £50

Answer: B £48 is 80% of the price before: 8 blocks of 10%. One block is $£48 \div 8 = £6$, so 100% is £60.

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

Now turn over and start Part 1.

Part 1: Multiple choice

1

Increase 80 by 17.5%.

- A 14 B 94 C 97.5 D 66 E 92

2

Decrease 48 by 12.5%.

- A 6 B 35.5 C 54 D 42 E 36

3

After a 10% price rise, a ticket costs £66.

What did the ticket cost before?

- A £60 B £59.40 C £56 D £72.60 E £76

4

200 is increased by 10%. Then the answer is decreased by 10%.

What is the final answer?

- A 200 B 220 C 180 D 202 E 198

5

A jacket costs £50. It has 20% off. Then it has a further 10% off the new price.

How much does it cost now?

- A £35 B £40 C £36 D £15 E £38

6

After 25% off, a pair of trainers costs £36.

What did they cost before?

- A £48 B £45 C £27 D £61 E £44

7

A number is increased by 50%. The answer is 90. What was the number?

- A 45 B 135 C 40 D 140 E 60

8

Decrease £30 by 17.5%.

- A £5.25 B £24.75 C £12.50 D £25.25 E £35.25
-

9

100 is decreased by 20%. Then the answer is increased by 20%.

What is the final answer?

- A 100 B 80 C 104 D 96 E 120
-

10

In a sale, every price is cut by 12.5%. A lamp cost £64 before the sale.

What is the sale price?

- A £8 B £51.50 C £56 D £72 E £52
-

11

A train ticket costs £40. Its price rises by 5%. The next year, the new price rises by 5% again.

How much does the ticket cost now?

- A £44 B £50 C £42 D £44.20 E £44.10
-

12

After a 20% pay rise, Ali earns £360 a week.

How much did Ali earn each week before?

- A £288 B £300 C £340 D £432 E £320
-

13

Which of these is NOT the same as decreasing 80 by 25%?

- A 80 – 25
B 75% of 80
C 80 – 20
D three quarters of 80
E half of 120
-

14

A tank holds 400 litres of water. 35% of the water is used. Then 10% of the water left is used.

How much water is left now?

- A** 220 litres **B** 260 litres **C** 140 litres **D** 234 litres **E** 226 litres
-

15

A school had 500 pupils. The number of pupils rose by 8%.

How many pupils are there now?

- A** 508 **B** 40 **C** 540 **D** 460 **E** 580
-

16

Shop A sells a bike for £60 with 25% off. Shop B sells the same bike for £55 with 10% off.

Which shop is cheaper, and by how much?

- A** Shop B, by £4.50
B Shop A, by £5
C Shop B, by £5
D Shop A, by £4.50
E They cost the same
-

17

30% of the children in a club are girls. There are 21 girls.

How many children are in the club?

- A** 70 **B** 30 **C** 51 **D** 91 **E** 63
-

18

After a price rise of 12.5%, a book costs £18.

What did the book cost before?

- A** £15.75 **B** £16 **C** £20.25 **D** £17 **E** £5.50
-

19

A car is worth £5000. Its value falls by 10% each year.

What is it worth after 2 years?

- A** £4000 **B** £4500 **C** £4100 **D** £950 **E** £4050

20

A shop puts its prices up by 20%. Then it has a sale with 20% off the new prices.

What happens to a £100 dress?

- A It costs £100, the same as before
- B It costs £104, more than before
- C It costs £96, less than before
- D It costs £80
- E It costs £120

Part 2: Write your answer

21

Increase 240 by 12.5%.

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

22

After 30% off, a sofa costs £350.

What did the sofa cost before, in pounds?

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

23

400 is increased by 25%. Then the answer is decreased by 20%.

What is the final answer?

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

24

Decrease 160 by 17.5%.

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

25

A number is increased by 20%. The answer is 84. What was the number?

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

26

A coat costs £80. It has 25% off. Then it has a further 10% off the new price.

How much does it cost now, in pounds?

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

27

A number is decreased by 25%. The answer is 45. What was the number?

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

Answer sheet

11+ Maths Practice Paper · Year 6 · Lesson 3.8: Percentage changes

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	B 94	10% of 80 is 8, 5% is 4 and 2.5% is 2, so 17.5% is 14, and $80 + 14 = 94$.
2	D 42	25% of 48 is 12, so 12.5% is 6, and $48 - 6 = 42$.
3	A £60	£66 is 110% of the price before: 11 blocks of 10%. One block is $£66 \div 11 = £6$, so 100% is £60.
4	E 198	$200 + 20 = 220$. Then 10% of 220 is 22, and $220 - 22 = 198$.
5	C £36	20% off £50 leaves £40, and 10% of £40 is £4, so $£40 - £4 = £36$. (30% off would be £35.)
6	A £48	£36 is 75%: 3 blocks of 25%. One block is $£36 \div 3 = £12$, so 100% is 4 blocks: £48.
7	E 60	90 is 150%: 3 blocks of 50%. One block is $90 \div 3 = 30$, so 100% is 2 blocks: 60.
8	B £24.75	10% of £30 is £3, 5% is £1.50 and 2.5% is £0.75, so 17.5% is £5.25, and $£30 - £5.25 = £24.75$.
9	D 96	$100 - 20 = 80$. Then 20% of 80 is 16, and $80 + 16 = 96$.
10	C £56	25% of £64 is £16, so 12.5% is £8, and $£64 - £8 = £56$.
11	E £44.10	5% of £40 is £2, so the price becomes £42, and 5% of £42 is £2.10, so it becomes £44.10.
12	B £300	£360 is 120%: 12 blocks of 10%. One block is $£360 \div 12 = £30$, so 100% is £300.
13	A 80 – 25	80 decreased by 25% is 60, and $80 - 25 = 55$; all the others are 60.
14	D 234 litres	35% of 400 is 140, leaving 260, and 10% of 260 is 26, leaving $260 - 26 = 234$ litres.
15	C 540	1% of 500 is 5, so 8% is 40, and $500 + 40 = 540$.
16	D Shop A, by £4.50	Shop A: $£60 - £15 = £45$. Shop B: $£55 - £5.50 = £49.50$. Shop A is cheaper by $£49.50 - £45 = £4.50$.
17	A 70	30% is 3 blocks of 10%, so 10% is $21 \div 3 = 7$. All the children are 100%: $7 \times 10 = 70$.
18	B £16	£18 is 112.5%: 9 blocks of 12.5%. One block is $£18 \div 9 = £2$, so 100% is 8 blocks: £16.
19	E £4050	After 1 year: $£5000 - £500 = £4500$. After 2 years: 10% of £4500 is £450, so $£4500 - £450 = £4050$.
20	C It costs £96, less than before	$£100 + 20\%$ is £120, and 20% of £120 is £24, so the sale price is $£120 - £24 = £96$.
21	270	25% of 240 is 60, so 12.5% is 30, and $240 + 30 = 270$.

Q	Answer	How to get it
22	500	£350 is 70%: 7 blocks of 10%. One block is £50, so 100% is £500.
23	400	25% of 400 is 100, so 400 becomes 500, and 20% of 500 is 100, so it goes back to 400.
24	132	10% of 160 is 16, 5% is 8 and 2.5% is 4, so 17.5% is 28, and $160 - 28 = 132$.
25	70	84 is 120%: 12 blocks of 10%. One block is $84 \div 12 = 7$, so the number is $7 \times 10 = 70$.
26	54	25% off £80 leaves £60, and 10% of £60 is £6, so $£60 - £6 = £54$.
27	60	45 is 75%: 3 blocks of 25%. One block is $45 \div 3 = 15$, so the number is 4 blocks: 60.

Score: out of 27