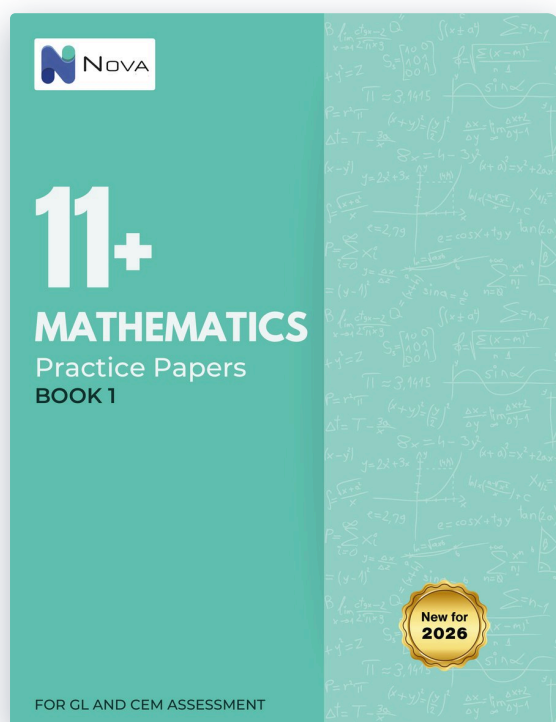


FREE SAMPLE PAGES

11+ Mathematics Practice Papers

Book 1 · Practice Test 1, Questions 1 to 10

Arithmetic, number, time and reasoning



Inside this sample

- p. 2** Practice Test 1 cover page
- p. 3** Questions 1 to 5: arithmetic, sequences and ordering
- p. 4** Questions 6 to 9: place value, time and number cards
- p. 5** Questions 9 and 10: largest difference and dates
- p. 6** Answer key and step-by-step worked explanations

1

Print

Print on A4 at home. Every page fits the sheet, so choose “Fit to page” if your printer asks.

2

Have a go

Let your child work through the pages at their own pace. Allow about 15 minutes.

3

Check together

Use the answers on page 6 and talk through anything that went wrong.

About the book

Four full-length 11+ Mathematics practice tests covering most of the Key Stage 2 curriculum, written for GL Assessment, CEM and independent school tests. Every question has a worked explanation that shows the method, not just the answer.

The full book is available on Amazon: amazon.co.uk/dp/B0G94ZHYDP

PRACTICE TEST 1

**40 Marks****50 Minutes****MATHEMATICS 11+**

1 Work out $4450 - 330 =$

Answer: [1 Mark]

2 A) Work out $392 \times 2 =$

Answer: [1 Mark]

B) A school is organising a charity event and is selling tickets for two different activities:

- A sports game, where tickets cost £18 each.
- A fun fair, where tickets cost £22 each.

If the school sold 125 tickets for the sports game and 78 tickets for the fun fair, how much money did the school collect from ticket sales?

Answer: [1 Mark]

3 A) Work out $1337 \div 7 =$

Answer: [1 Mark]

B) Sam has 156 sweets and wants to share them equally among 6 of his friends.
How many sweets will each friend get? Show your working.

Answer: [1 Mark]

4 Each number sequence in this question follows a rule.
Write the next two numbers in each space to continue with the sequence.

i) 3, 4, 6, 9, 13,

 ,

[1 Mark]

ii) 4, 8, 16, 32,

 ,

[1 Mark]

iii) 170, 155, 140, 125,

 ,

[1 Mark]

5 Put these numbers in order from smallest to largest.

[1 Mark]

$\frac{1}{2}$, $\frac{2}{5}$, 0.01, $\frac{40}{5}$, 25%

Answer:

6

Write five thousand six hundred and twenty-seven in figures.

Answer:

[1 Mark]

7

Fill in the gaps in the calculations below.

i) $7 \times 11 + \square = 16 \times 5$

Answer:

[1 Mark]

ii) $7 \times (8 + \square) = 12 + 2^2 \times 25$

Answer:

[1 Mark]

iii) $160 \div 2 + \square = 9^2$

Answer:

[1 Mark]

8

A train departs the station at 11:50 am and the journey takes 105 minutes.

A) At what time does the train arrive at its destination? Give your answer using the 24-hour clock.

Answer:

[1 Mark]

B) A passenger on the train reads a book at a speed of 48 pages per hour. If the journey lasts 1 hour and 45 minutes, how many pages can the passenger read during the trip? Show your working.

Answer:

[1 Mark]

9

Here are 4 numbered cards.



Put all 4 cards together to make:

A) The smallest possible even number.

Answer:

[1 Mark]

B) The largest possible multiple of 5.

Answer:

[1 Mark]

C) Putting only 2 of the cards together, what is the largest possible cube number?

Answer:

[1 Mark]

D) Arrange the number cards to give the largest possible answer to the subtraction below.



[1 Mark]

10 Maria was born on 10th July 2005, and Jason was born on 10th December 2010.

A) By how many years and months is Maria older than Jason?

Answer:

[1 Mark]

B) Sofia is 2 years and 3 months younger than Jason. What is Sofia's date of birth?

Answer:

[1 Mark]

Questions 11 to 18 of Practice Test 1 continue in the full book.

See the last page of this sample for details.

Practice Test 1

Mathematics 11+ Answers (40 Marks)

- 1** 4120
- 2** A) 784 B) £3,966
- 3** A) 191 B) 26 sweets
- 4** i) 18, 24 ii) 64, 128 iii) 110, 95
- 5** 0.01, 25%, $\frac{2}{5}$, $\frac{1}{2}$, $\frac{40}{5}$
- 6** 5627
- 7** i) 3 ii) 8 iii) 1
- 8** A) 13:35 B) 84 pages
- 9** A) 4576 B) 7645 C) 64 D) $76 - 45 = 31$
- 10** A) 5 years and 5 months B) 10th March 2013

Answers to Questions 11 to 18 are in the full book.

See the last page of this sample for details.

Practice Test 1: Worked Explanations

1

Line up the digits by place value and subtract column by column, starting with the ones.

$$\begin{array}{r} 4450 \\ - 330 \\ \hline 4120 \end{array}$$

Ones: $0 - 0 = 0$. Tens: $5 - 3 = 2$. Hundreds: $4 - 3 = 1$. Thousands: $4 - 0 = 4$.

Answer: 4120

2

A) Multiply each digit of 392 by 2, then add the parts.

$$\begin{array}{r} 392 \\ \times 2 \\ \hline 4 \\ 180 \\ + 600 \\ \hline 784 \end{array}$$

$2 \times 2 = 4$, $2 \times 90 = 180$ and $2 \times 300 = 600$, so $4 + 180 + 600 = 784$.

Answer: 784

B) Work out the money from each activity, then add the two amounts.

Sports game: $125 \times £18 = (125 \times 10) + (125 \times 8) = £1,250 + £1,000 = £2,250$

Fun fair: $78 \times £22 = (78 \times 20) + (78 \times 2) = £1,560 + £156 = £1,716$

$$\begin{array}{r} 2250 \\ + 1716 \\ \hline 3966 \end{array}$$

Answer: £3,966

3

A) Use short division. 7 does not go into 1, so carry the 1. $13 \div 7 = 1$ remainder 6, carry the 6. $63 \div 7 = 9$. $7 \div 7 = 1$.

$$\begin{array}{r} 0191 \\ 7 \overline{)1337} \end{array}$$

Check: $191 \times 7 = 1337$.

Answer: 191

B) Sharing equally means dividing: $156 \div 6$.

$$\begin{array}{r} 026 \\ 6 \overline{)156} \end{array}$$

6 does not go into 1, so carry the 1. $15 \div 6 = 2$ remainder 3, carry the 3. $36 \div 6 = 6$.

Check: $26 \times 6 = 156$, so there is nothing left over.

Answer: 26 sweets

4

Look at how each number changes to get to the next one.

i) 3, 4, 6, 9, 13: the steps are +1, +2, +3, +4, so the step goes up by 1 each time.
Next: $13 + 5 = 18$, then $18 + 6 = 24$.

Answer: 18, 24

ii) 4, 8, 16, 32: each number is double the one before ($\times 2$). Next: $32 \times 2 = 64$, then $64 \times 2 = 128$.

Answer: 64, 128

iii) 170, 155, 140, 125: each number is 15 less than the one before. Next: $125 - 15 = 110$, then $110 - 15 = 95$.

Answer: 110, 95

5

Change every number into a decimal so they are easy to compare.

- $\frac{1}{2} = 0.5$
- $\frac{2}{5} = 0.4$
- 0.01
- $\frac{40}{5} = 40 \div 5 = 8$
- 25% = 0.25

In order: 0.01, 0.25, 0.4, 0.5, 8. Now write them in their original form.

Answer: 0.01, 25%, $\frac{2}{5}$, $\frac{1}{2}$, $\frac{40}{5}$

6

Five thousand = 5000, six hundred = 600, twenty-seven = 27.

$$5000 + 600 + 27 = 5627$$

Answer: 5627

7

Work out the side you can calculate, then find the missing number that makes both sides equal.

i) Right side: $16 \times 5 = 80$. Left side: $7 \times 11 = 77$. $77 + \square = 80$, so $\square = 80 - 77 = 3$.

Answer: 3

ii) Right side: $2^2 = 4$, and multiplication comes before addition, so $12 + 4 \times 25 = 12 + 100 = 112$.

Left side: $7 \times (8 + \square) = 112$, so $8 + \square = 112 \div 7 = 16$, and $\square = 16 - 8 = 8$.

Answer: 8

iii) Right side: $9^2 = 9 \times 9 = 81$. Left side: $160 \div 2 = 80$. $80 + \square = 81$, so $\square = 1$.

Answer: 1

8

A) 105 minutes = 1 hour 45 minutes. $11:50 + 1 \text{ hour} = 12:50$. Then $12:50 + 10 \text{ minutes} = 13:00$, which leaves $45 - 10 = 35 \text{ minutes}$. $13:00 + 35 \text{ minutes} = 13:35$.

Answer: 13:35

B) The journey lasts 1 hour 45 minutes. In 1 hour the passenger reads 48 pages. 45 minutes is $\frac{3}{4}$ of an hour, and $\frac{3}{4}$ of 48 = $48 \div 4 \times 3 = 36$ pages.

Total: $48 + 36 = 84$ pages.

Answer: 84 pages

9

The cards are 6, 5, 4 and 7.

A) An even number must end in 4 or 6. To make it as small as possible, 4 is the smallest card, so it goes first; that leaves 6 to go at the end. The order is 4, 5, 7, then 6.

Answer: 4576

B) A multiple of 5 must end in 0 or 5, so 5 goes last. Put the other cards in order from largest: 7, 6, 4, then 5.

Answer: 7645

C) The two-digit cube numbers are 27 ($3 \times 3 \times 3$) and 64 ($4 \times 4 \times 4$). There is no 2 card, so 27 cannot be made.

Answer: 64

D) To make the answer as large as possible, make the first number as large as possible (76) and the number taken away as small as possible (45). $76 - 45 = 31$.

Answer: $76 - 45 = 31$

10

A) Count on from Maria's birthday. 10th July 2005 to 10th July 2010 is 5 years. 10th July 2010 to 10th December 2010 is 5 months (August, September, October, November, December).

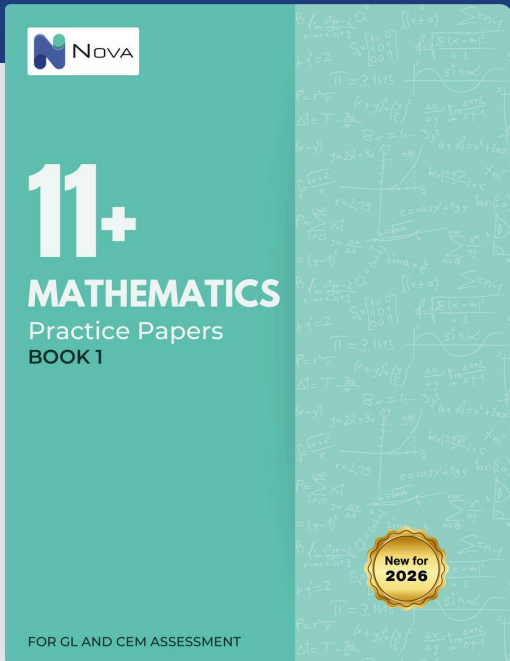
Answer: 5 years and 5 months

B) Jason was born on 10th December 2010. Add 2 years: 10th December 2012. Add 3 months: 10th January, 10th February, 10th March 2013.

Answer: 10th March 2013

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