

Parent Guide



@twinklparents

We're excited to share this activity with you. If you are interested in finding more engaging, fun and interesting activities for you and your children, then check out these links to different areas of the [Twinkl Parents](#) website.

games



crafts



puzzles



experiments



word searches



What is this resource and how do I use it?

This assessment pack features a quick guide to the 11+ maths tests as well as an introduction to the types of questions your child might encounter. Then, there are two sets of questions for your child to have a go at. We have included an answer guide too so that you can help your child to understand what strategies to use.

What skills does this practise?

11+

Maths Skills

Place Value

Algebra

Further Activity Ideas and Suggestions

For more 11+ practice, check out this [11+ Verbal Reasoning Practice Paper: 3 Letter Words 2 Assessment Pack](#) and this [11+ Week of Workouts - Verbal Reasoning](#). You can encourage your child to get in some bite-size practice of all the 11+ skills with this set of [11+ Activity Mats](#).

Parents Blog



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Homework Help



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Parents Hub

Maths

Maths skills are an integral part of the 11+ test. The maths test varies across areas and schools, so it is important to visit individual schools' websites to find out more information. In some schools, the maths portion of the 11+ is a separate paper which can last from thirty minutes to one hour.

The key skills needed for the maths test are:

- a strong knowledge of the four operations (addition, subtraction, multiplication and division)
- the ability to work quickly and accurately
- a sound knowledge of the times tables
- the ability to apply mathematical skills to problem-solving and reasoning

The test should cover objectives from the maths national curriculum for England. Therefore, you can expect questions on:

- **number**, which includes place value, fractions, decimals, percentages and the four basic operations;
- **algebra**, which includes equations and formulae;
- **geometry**, which includes shapes, length, weight, capacity, area, coordinates and nets;
- **data handling**, including statistics and probability.

Maths skills may also be assessed as part of the verbal reasoning test. This test might include activities involving number sequencing, completing the calculation, finding the missing number and finding related numbers.

For a thorough guide to all aspects of the 11+ test, try our [Survival Guide for Parents/Carers](#).



You can help your child to prepare for the 11+ maths test by building their confidence in using the four operations and the times tables. Use a variety of revision techniques, such as online games, apps, reciting and singing to practise. Your child will also need to know the inverse operations for each times table fact. For example, the knowledge that $5 \times 7 = 35$ can be used for division facts too, such as $35 \div 7 = 5$ and $35 \div 5 = 7$.

Short walks or car journeys always provide a great opportunity to help brush up on times tables with some quick-fire questions. You can find plenty of revision activities [here](#) on the [Twinkl Parents Hub](#) too.

Your child will also need to be confident in reading and understanding what a question is asking them to do.

Here are some example questions from the 11+ maths test:

Multiply each of these numbers by 100. Write the answer below each number.

0.168

10.6

1.06

What is the largest whole number which divides exactly into 40 and 56?

Circle the numbers which give 7 when rounded to the nearest whole number.

6.53

6.42

7.04

6.74

7.54

7.49

7.94





11+ Maths Practice Paper

Test 1

1. Circle all the numbers which are factors of 56.

2 3 4 7 9 10 12 14 21 28

2. Round the following numbers to the nearest thousand:



Number	Rounded to the nearest 1000
2 370 678	
4 939 942	
3 672 425	



3. One day, Isaac measured the temperature in his garden. He recorded the temperature at 11°C . The following week he recorded the temperature again. It had dropped by 17°C . What was the new temperature in the garden?



4. Mr Singh is a travelling salesman. Last week he drove 197 miles, 232 miles and 178 miles over three journeys. This week he drove 309 miles and 237 miles over two journeys.

What is the difference in Mr Singh's mileage between the two weeks? Show your working out below.



_____miles





5. There are 24 pencils in a box. In one day, a pencil manufacturer fills 4289 boxes. How many pencils are there in the boxes? Show your working out here.

_____pencils

6. What is 4×2.68 ? Circle the correct answer.

- a. 10.84 b. 10.72 c. 10.27 d. 11.72 e. 9.84

7. What is $\frac{3}{5}$ of 70? Circle the correct answer.

- a. 35 b. 40 c. 42 d. 45 e. 48

8. Circle the improper fraction that is the same as this mixed number: $5\frac{6}{8}$.

- a. $\frac{38}{8}$ b. $\frac{40}{8}$ c. $\frac{42}{8}$ d. $\frac{46}{8}$ e. $\frac{52}{8}$

9. How many thirds are there in the number 12?

- a. 3 b. 18 c. 36 d. 48 e. 24

10. What is 1000×3.078 ?

- a. 3078 b. 378 c. 3708 d. 37.8 e. 30.78





11. What is 15% of £360? Show your working here.



£ _____



12. Two pizzas cost £17.00. What is the cost of 5 pizzas?

- a. £34.00 b. £42.50 c. £51.00 d. £25.50 e. £36.50



13. David is making a cake. The recipe says that for every 3 eggs, he needs 120 grams of flour. If he uses 480 grams of flour, how many eggs will he need? Show your working here.

_____ eggs

14. What is the value of a in the following equation? $4a = 16$

- a. 2 b. 3 c. 4 d. 5 e. 6



11+ Maths Practice Paper Answers

Test 1

1. Circle all the numbers which are factors of 56.

(2) 3 (4) (7) 9 10 12 (14) 21 (28)

This question tests your child's knowledge of times tables. They'll need to know the following facts:

$$2 \times 28 = 56$$

$$4 \times 14 = 56$$

$$7 \times 8 = 56$$

2. Round the following numbers to the nearest thousand:

Number	Rounded to the nearest 1000
2 370 678	2 371 000
4 939 942	4 940 000
3 672 425	3 672 000

This question tests your child's understanding of number and place value. To round a number to the nearest thousand, they'll need to look at the hundreds column to decide if they are rounding up or down.

3. One day, Isaac measured the temperature in his garden. He recorded the temperature at 11°C. The following week he recorded the temperature again. It had dropped by 17°C. What was the new temperature in the garden?

-6°C

This question tests your child's understanding of number, particularly crossing zero to find negative numbers.

The temperature started at 11°C and dropped by 17°C the following week. To find the new temperature, your child will need to solve $11^{\circ}\text{C} - 17^{\circ}\text{C} = -6^{\circ}\text{C}$.

4. Mr Singh is a travelling salesman. Last week he drove 197 miles, 232 miles and 178 miles over three journeys. This week he drove 309 miles and 237 miles over two journeys.

What is the difference in Mr Singh's mileage between the two weeks? Show your working out below.

Week 1: 197 miles + 232 miles + 178 miles

Week 2: 309 miles + 237 miles

$$\begin{array}{r}
 197 \\
 232 \\
 + 178 \\
 \hline
 607 \\
 \text{2 1}
 \end{array}
 \qquad
 \begin{array}{r}
 309 \\
 + 237 \\
 \hline
 546 \\
 \text{1}
 \end{array}
 \qquad
 \begin{array}{r}
 \overset{5}{6}07 \\
 - 546 \\
 \hline
 61
 \end{array}$$

_____ 61 _____ miles

This question tests your child's addition and subtraction skills. To find the difference in mileage between each week, we first need to find out how much he drove each week. Use the column method to add together the mileage for the week 1 journeys and the week 2 journeys. Then, to find the difference, subtract the smaller value from the larger value.

5. There are 24 pencils in a box. In one day, a pencil manufacturer fills 4289 boxes. How many pencils are there in the boxes? Show your working out here.

1 box = 24 pencils

4289 boxes = 4289 x 24 pencils

$$\begin{array}{r}
 4289 \\
 \times 24 \\
 \hline
 17156 \quad (4289 \times 4) \\
 \text{1 33} \\
 + 85780 \quad (4289 \times 20) \\
 \text{1 1} \\
 \hline
 102936 \\
 \text{1 1}
 \end{array}$$

_____ 102 936 _____ pencils

This question tests your child's knowledge of multiplication. They'll need to choose an appropriate multiplication strategy to solve 4289 x 24 to find the answer.

6. What is 4×2.68 ? Circle the correct answer.

a. 10.84

b. 10.72

c. 10.27

d. 11.72

e. 9.84

This question tests your child's knowledge of multiplication using decimals. They'll need to solve 4×2.68 . There are many strategies your child can use, including solving 4×2 first and then 4×0.68 , or solving it all together in a column.

7. What is $\frac{3}{5}$ of 70? Circle the correct answer.

a. 35

b. 40

c. 42

d. 45

e. 48

This question tests your child's knowledge of fractions as well as division and multiplication skills. They'll need to first find $\frac{1}{5}$ of 70 by calculating $70 \div 5 = 14$. Then, they can find $\frac{3}{5}$ of 70 by solving $14 \times 3 = 42$.

8. Circle the improper fraction that is the same as this mixed number: $5 \frac{6}{8}$.

a. $\frac{38}{8}$

b. $\frac{40}{8}$

c. $\frac{42}{8}$

d. $\frac{46}{8}$

e. $\frac{52}{8}$

This question tests your child's understanding of fractions. They'll need to understand that one whole, in this case, is the same as $\frac{8}{8}$ to work out that there are 5 lots of $\frac{6}{8}$ and leftover. $5 \times 8 = 40$ so there are $\frac{46}{8}$.

9. How many thirds are there in the number 12?

a. 3

b. 18

c. 36

d. 48

e. 24

This question tests your child's understanding of fractions. For each whole number (1) within 12, there are 3 thirds. Therefore, the number 12 has 12×3 thirds, which equals 36 thirds.

10. What is 1000×3.078 ?

a. 3078

b. 378

c. 3708

d. 37.8

e. 30.78

This question tests your child's understanding of decimals, multiplication and place value. They'll need to know that multiplying by 1000 means that the number will essentially move three spaces along a place value chart, meaning that the digit in the ones column will now be in the thousands column. No decimal is required as the answer is a whole number.

11. What is 15% of £360? Show your working here.

$$10\% \text{ of } £360 = £360 \div 10 = £36.00$$

$$5\% \text{ of } £360 = £36.00 \div 2 = £18.00$$

$$15\% \text{ of } £360 = £36.00 + £18.00 = £54.00$$

£ 54.00

This question tests your child's understanding of percentages. There are various ways to solve this problem, including using division to find 10% and 5% and then adding those answers together, or finding 1% and multiplying the answer by 15.

12. Two pizzas cost £17.00. What is the cost of 5 pizzas?

a. £34.00

b. £42.50

c. £51.00

d. £25.50

e. £36.50

This question tests your child's understanding of ratio and proportion. They'll need to know that 2 pizzas = £17.00 so 1 pizza = £8.50. Then, to find the cost of 5 pizzas, they'll need to multiply £8.50 by 5. Alternatively, they can find the cost of 4 pizzas (£17.00 x 2) and then the cost of 1 pizza (£17.00 ÷ 2) and add those values together.

13. David is making a cake. The recipe says that for every 3 eggs, he needs 120 grams of flour. If he uses 480 grams of flour, how many eggs will he need? Show your working here.

3 eggs: 120g flour

? eggs: 480g flour

$$120\text{g flour} \longrightarrow 480\text{g flour} = 120\text{g} \times 4$$

$$3 \text{ eggs} \longrightarrow ? \text{ eggs} = 3 \times 4 = 12$$

12 eggs: 480g flour

14. What is the value of a in the following equation? $4a = 16$

a. 2

b. 3

c. 4

d. 5

e. 6

This question tests your child's understanding of ratio and proportion. They'll need to know that 2 pizzas = £17.00 so 1 pizza = £8.50. Then, to find the cost of 5 pizzas, they'll need to multiply £8.50 by 5. Alternatively, they can find the cost of 4 pizzas (£17.00 x 2) and then the cost of 1 pizza (£17.00 ÷ 2) and add those values together.



11+ Maths Practice Paper



Test 2

1. Circle all the numbers which are factors of 48.

1 2 4 5 7 9 11 12 24 26

2. Round the following numbers to the nearest thousand:

Number	Rounded to the nearest 1000
645 648	
4 664 914	
1 327 528	



3. At Darwin Academy, the children recorded the temperature in the garden each day in March. The results are below:

Monday	Tuesday	Wednesday	Thursday	Friday
-3 °C	4 °C	5 °C	-1 °C	6 °C



a. What is the difference between Monday's and Friday's temperature?

9°C 7°C 6°C 4°C 3°C



b. The temperature on Saturday is 5°C lower than Thursday. What is the temperature on Saturday?

4°C 5°C - 4°C - 6°C 6°C

4. Sophie buys a T-shirt for £5.63, a skirt for £7.99 and a pair of shorts. She pays for the items with a £20 note and gets the following coins as change.



How much did the shorts cost? Show your working here.

£ _____

5. How many 7s are there in 387? Round the answer to the nearest whole number. Show your working here.



6. What is 12×5.14 ? Circle the correct answer.



a. 61.86

b. 61.74

c. 61.68

d. 62.72

e. 61.64

7. What is $\frac{5}{8}$ of 72? Circle the correct answer.

a. 35

b. 40

c. 45

d. 50

e. 55



8. Circle the improper fraction that is the same as this mixed number: $5\frac{3}{7}$.

a. $\frac{35}{7}$

b. $\frac{36}{7}$

c. $\frac{37}{7}$

d. $\frac{38}{7}$

e. $\frac{39}{7}$

9. What is $30\,785 \div 1000$?

a. 3.0785

b. 3.785

c. 30.785

d. 307.85

e. 0.3785

10. You can buy 4 cartons of milk for £2.40. How much will it cost to buy 16 cartons of milk? Show your working here.

£ _____

11. £3 is shared equally between 5 children. How much will each child receive?

a. £1

b. £1.20

c. 60p

d. 80p

e. 30p

12. A coach left Manchester at 08:52 and arrived in Newquay later that day at 17:23. How long did the journey last?

a. 508 minutes

b. 509 minutes

c. 510 minutes

d. 511 minutes



11+ Maths Practice Paper: Answers

Spelling: Test 2

1. Circle all the numbers which are factors of 48.

① ② ④ 5 7 9 11 ⑫ ⑲ 26

This question tests your child's knowledge of times tables. They'll need to know the following facts:

$$1 \times 48 = 48$$

$$2 \times 24 = 48$$

$$4 \times 12 = 48$$

2. Round the following numbers to the nearest thousand:

Number	Rounded to the nearest 1000
645 648	646 000
4 664 914	4 665 000
1 327 528	1 328 000

3.a. What is the difference between Monday's and Friday's temperature?

⑨°C 7°C 6°C 4°C 3°C

This question tests your child's understanding of number, particularly crossing zero to find negative numbers. The difference between Monday's temperature (-3°C) and Friday's temperature (6°C) is found by counting on from -3 through 0 to 6, giving us 9°C .

3.b. The temperature on Saturday is 5°C lower than Thursday. What is the temperature on Saturday?

4°C 5°C -4°C ① -6°C 6°C

This question tests your child's understanding of number, particularly subtracting from negative numbers. Thursday's temperature was -1°C . Saturday's temperature was 5°C less than -1°C . $-1^{\circ}\text{C} - 5^{\circ}\text{C} = -6^{\circ}\text{C}$

4. Sophie buys a T-shirt for £5.63, a skirt for £7.99 and a pair of shorts. She pays for the items with a £20 note and gets the following coins as change.



How much did the shorts cost? Show your working here.

$£20.00 - £2.26 = £17.74$
 $£5.63 + £7.99 + ? = £17.74$

$\begin{array}{r} 5.63 \\ \times 7.99 \\ \hline 13.62 \\ \hline 11 \end{array}$	$\begin{array}{r} 17.74 \\ - 13.62 \\ \hline £ 4.12 \end{array}$	$£5.63 + £7.99 = £13.62$	$£17.74 - £13.62 = £4.12$
		$£ \underline{4.12}$	

This question tests your child's understanding of money as well as addition and subtraction. They'll need to first count the change and then subtract that from £20 to find how much Sophie spent in total. Then, they can add the cost of the T-shirt and the skirt together. Subtract the cost of the T-shirt and skirt from the total spent to find the cost of the shorts.

5. How many 7s are there in 387? Round the answer to the nearest whole number. Show your working here.

$$\begin{array}{r} 055 \text{ r}2 \\ 7 \overline{) 387} \end{array}$$

$55 \text{ r}2 = 55 \frac{2}{7}$

Nearest whole number = 55.
 55

This question tests your child's understanding of division. They'll need to use the written method of division to solve $387 \div 7$. Then, they'll need to use their understanding of remainders to identify that the remainder can be written as a fraction (or decimal) in order to find out that the nearest whole number is 55.

6. What is 12×5.14 ? Circle the correct answer.

61.86

b. 61.74

c. 61.68

d. 62.72

e. 61.64

This question tests your child's knowledge of multiplication using decimals. They'll need to solve 12×5.14 . There are many strategies your child can use, including solving 12×5 first and then 12×0.14 , or solving it all together in a column.

7. What is $\frac{5}{8}$ of 72? Circle the correct answer.

a. 35

b. 40

c. 45

d. 50

e. 55

This question tests your child's knowledge of fractions as well as division and multiplication skills. They'll need to first find $\frac{1}{8}$ of 72 by calculating $72 \div 8 = 9$. Then, they can find $\frac{5}{8}$ of 72 by solving $9 \times 5 = 45$.

8. Circle the improper fraction that is the same as this mixed number: $5 \frac{3}{7}$.

a. $\frac{35}{7}$

b. $\frac{36}{7}$

c. $\frac{37}{7}$

d. $\frac{38}{7}$

e. $\frac{39}{7}$

This question tests your child's understanding of fractions. They'll need to understand that one whole, in this case, is the same as $\frac{7}{7}$ so work out that there are 5 lots of $\frac{7}{7}$ and $\frac{3}{7}$ left over. $5 \times 7 = 35$ so there are 38.

9. What is $30\,785 \div 1000$?

a. 3.0785

b. 3.785

c. 30.785

d. 307.85

e. 0.3785

This question tests your child's understanding of decimals, multiplication and place value. They'll need to know that dividing by 1000 means that the number will essentially move three spaces to the right along a place value chart, meaning that the 3 will end up in the tens column and the other numbers will be in the same order after the 3.

10. You can buy 4 cartons of milk for £2.40. How much will it cost to buy 16 cartons of milk? Show your working here.

4 cartons: £2.40

16 cartons: ?

4 cartons \longrightarrow 16 cartons = 4 cartons \times 4

£2.40 \longrightarrow ? = £2.40 \times 4 = £9.60

16 cartons: £9.60

£ 9.60

11. £3 is shared equally between 5 children. How much will each child receive?

a. £1

b. £1.20

c. 60p

d. 80p

e. 30p

This question tests your child's understanding of ratio and proportion as well as division. Your child will need to divide £3 between 5. £3 is the same as 300 pennies. $300p \div 5 = 60p$.

12. A coach left Manchester at 08:52 and arrived in Newquay later that day at 17:23. How long did the journey last?

a. 508 minutes

b. 509 minutes

c. 510 minutes

d. 511 minutes

This question tests your child's understanding of measurement, looking at time in particular. They'll need to know that there are 60 minutes in 1 hour. $08:52 \rightarrow 16:52 = 8$ hours. $16:52 \rightarrow 17:23 = 31$ minutes. 8 hours and 31 minutes as minutes = $8 \times 60 = 480 + 31 = 511$ minutes.

We hope you find the information on our website and resources useful. As far as possible, the contents of this resource are reflective of current professional research. However, please be aware that every child is different and information can quickly become out of date. The information given here is intended for general guidance purposes only and may not apply to your specific situation.