

These types of questions
how to

Maths

It is good fun to know
how.

Division of fractions

Start with a division sum: $\frac{4}{5} \div 2$ This can be written as $\frac{4}{5} \div \frac{2}{1}$

Then change the \div sign to a \times sign and invert (turn upside down) the fraction after it.

This now makes the sum: $\frac{4}{5} \times \frac{1}{2}$ Then cross cancel if you can: $\frac{4}{5} \times \frac{1}{2}$

So now you get $\frac{2}{5} \times \frac{1}{1}$ which means $\frac{2}{5} \times 1$, so the answer is: $\frac{2}{5}$

This is how you do all division of fraction sums.

Now follow this example carefully - it takes exactly the same steps:

$$\frac{7}{8} \div \frac{11}{16} = \frac{7}{\cancel{8}^1} \times \frac{\cancel{16}^2}{11} = \frac{7}{1} \times \frac{2}{11} = \frac{14}{11} = 1\frac{3}{11}$$

Remember: 1. Change the sign
2. Invert the fraction after it
3. Cross cancel if possible

Can you see how this works? Now try these:

1. $\frac{2}{7}$

In the maths section there are always some sheets focussing on an individual skill that children may find difficult. This one revises division of fractions; others include area, shapes, graphs, long division etc.

4. $\frac{7}{8}$

3. $\frac{4}{5} \div \frac{7}{15} =$

6. $\frac{3}{10} \div 1\frac{4}{5} =$

Convert to an improper fraction first ($\frac{9}{5}$), then it is easy!

Did you enjoy those?

Accuracy and Core Maths Skills

- You must show your work
- Work must be neat and attention to detail is necessary.
- If mistakes are made, it is a strong indication that children will drop marks needlessly in the actual exam. Do this test several times if necessary.

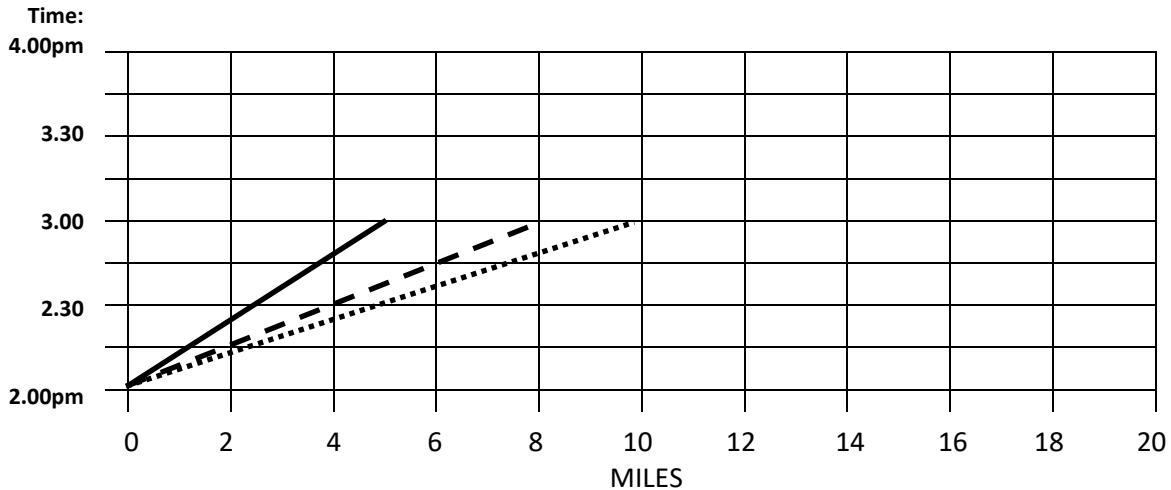
$8 + 7 =$	$9 - 4 =$	$6 \times 7 =$	$54 \div 6 =$	$8 + 4 =$
$7 \times 5 =$	$48 \div 8 =$	$8 \times 5 =$	$7 + 8 =$	$2 - 0 =$
$12 - 7 =$	$9 + 5 =$	$7 \times 9 =$	$42 \div 6 =$	$9 \times 8 =$
$96 \div 8 =$	$5 + 6 =$	$72 \div 6 =$	$8 - 7 =$	$54 \div 9 =$
$6 \times 3 =$	$56 \div 7 =$	$7 \times 12 =$	$30 \div 6 =$	$0 + 1 =$
$5 + 8 =$	<p>In each part of the course we focus on this important area in different ways. For most children, being able to work accurately is more important than developing complex skills. Unless they can work accurately, children will not be successful. This sheet looks at working quickly and accurately with core calculations.</p>			$8 =$
$5 \times 6 =$				$6 =$
$5 + 7 =$				$\div 8 =$
$16 - 8 =$				$7 =$
$7 \times 6 =$				$\div 9 =$
$17 - 9 =$				$+ 5 =$
$8 \times 3 =$				$7 =$
$11 - 6 =$				$+ 6 =$
$8 \times 6 =$				$9 =$
$5 \times 7 =$				$- 7 =$
$7 - 2 =$	$56 \div 8 =$	$8 \times 12 =$	$13 - 8 =$	$32 \div 4 =$
$3 + 7 =$	$16 - 7 =$	$7 + 8 =$	$4 \times 6 =$	$14 - 6 =$
$12 - 9 =$	$9 \times 3 =$	$11 - 8 =$	$49 \div 7 =$	$5 + 8 =$
$8 \times 9 =$	$6 + 7 =$	$27 \div 9 =$	$15 - 4 =$	$9 \times 7 =$
$72 \div 8 =$	$13 - 9 =$	$5 \times 12 =$	$4 + 8 =$	$18 - 7 =$

Score /100

Maths Papers

Three friends cycled around a track. They

The graph shows how each of them did during the first hour.



Key: Oliver: - - - - - Milo: _____ Ben:

Questions:

1. What percentage of Ben's distance did Milo do? _____
2. How many laps of the track did Oliver complete? _____

In the

Milo

3. _____ cycled by 4pm.

Ben

punct

4. _____ 6 miles he had a

Oliver

5. _____ cycled by 4pm.

6. _____

7. At what time did Ben have his puncture? _____

In each part of the course there is a timed Maths paper. These tests help to uncover any areas of confusion that children have and aim to cover the whole syllabus. They also of course help children work to time which is a crucial skill. These papers are not available anywhere else.

Maths Revision Test

- $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = \underline{\hspace{2cm}}$
- $10^5 = 10 \times 10 \times 10 \times 10 \times 10 = \underline{\hspace{2cm}}$

- The perimeter of this parallelogram is 72 cm.

Fill in

Each part of the course includes a revision test. This one from the end of course includes questions on 30 different topics. CEM Maths questions- called Numerical Reasoning- tend to stick largely to the syllabus but seek to get children to use their Maths skills flexibly to solve problems. No one knows which question types may come up which is why we include a very wide mix of questions.

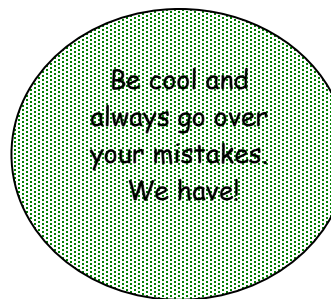
- 4.5
- 9.0
- 0.
- W

100

- The square root of 36 = $\underline{\hspace{2cm}}$

- $1.36 \div 8 = \underline{\hspace{2cm}}$

- $7.3 \times 5 = \underline{\hspace{2cm}}$



Score this week:

Words from Past Papers

PAPERS

Fill in the gaps in the sentences below to find the correct word.

1. It was stuffy, the _ e n _ _ l a _ i o _ in the room was not adequate.
2. Tom aimed to be as e _ _ n o _ i _ a _ with his time as possible.
3. The judge was l _ _ i _ n t as she decided on the sentence for the crim
4. Lucy was
5. Joe coul
6. It was h
7. George c
8. Freddie's _ _ p u d _ _ t behaviour was always a constant source of frustration for his mother.
9. The army had _ e s _ _ g e _ the city.
10. She asked for a receipt so her boss could _ _ i m b _ r _ e her for her expenses.

We include a number of unique development tools in this section. This sheet seeks to introduce children to/refresh their memory of the type of vocabulary that has come up in previous 11 Plus tests around the country.

Opposites and Synonyms

- A particularly verbal reasoning.
- This test encourages you to trawl your memory to complete the test. Learn any words that you don't get.
- Don't give up, persevere, try different letters and think about possible endings. You will need to persevere and work actively in the exam - do not just stare at the page.

FIND THE SYNONYMS ON THE RIGHT OF THE WORDS ON THE LEFT

quarrelsome
abundant
friendly
apparition
impudence

FIND THE OPPOSITES

plain
poverty
smart
cramped
straight

Questions involving opposites and synonyms tend to come up in verbal reasoning and in some comprehension tests. We focus on theses in each part of the course.

__ __ __
p __ __ sp __ __ __ t __
__ love __ l __
__ pac __ o __ s
c __ oo __ __ d

Compound Word Puzzle

Compou
but car
e.g. or and on - or on.

blackboard,
mselves

Often you will have to alter pronunciation to solve the puzzle e.g. **pop** and **pies** - **poppies** or **do** and **me** - **dome**.

Without using the clues, these puzzles are extremely difficult.

Find ten compound words from these parts of words. (Use each part only once.) Write out the words you have found underneath. Learn meanings and spellings if you don't know them - this is a learning exercise, not a test.

come

her

sea

up

light

some

main

mint

back

be

ward

stream

spear

lift

1/ _____

2/ _____

5/ _____

6/ _____

9/ _____

10/ _____

These puzzles can be really difficult and many children will have to come back to them several times to complete them. They really help to switch on a child's vocabulary recognition and recall.

Clues 1/ A period of the year 2/ chewing gum flavour 3/ A glow in the night 4/ Occasionally 5/ Raise 6/ Evolve 7/ Not fully developed 8/ Towards the higher part of a river 9/ Property that is owned 10/ An oily fish

Devilish Double Letters

Some words have double letters and this can cause uncertainty.

In this little series of tests we list 20 words. Some of them either have too many double letters or too few. Identify the spelling mistakes and write them out correctly.



disapoint

proccedure

labeled

retirred



dissappear

posession

occurence

arrested

misspel

millenium

acquire

dumbell

mising

personell

harrass

detertence

acommodati

Spelling is an important skill within 11 Plus tests and we include a variety of sheets covering misspelt words and difficult spellings.

This sheet covers double letters and asks children to spot which words have too many letters and which ones have too few and to spell them correctly. Double letters often cause confusion amongst children and therefore often come up in some form in 11 Plus tests.



Sentence Correction

There is either one mistake or more than one mistake in each of these sentences.

Write each sentence out correctly

1. Immediately she ran to the injured woman.

2. I saw a cat with it's owner which had a long tail.

3. A tabl

These sentence correction tests cover punctuation, spelling and use of English. In CEM tests these types of questions have come up historically but not recently; CEM could re-introduce these at any point without warning.

4. There

5. Somec

6. Our teacher is on holiday, the lesson needs to be cancelled.

7. He didnt finish his lunch, however he did eat his pudding.

8. You should see whose taking the training session.

9. "Don't say that" his mother shouted, "I've been working on his all day"!

10. Its on its way, isnt it.

English Exam Paper

In the following passage there are some spelling mistakes. On each numbered line there is either one mistake, two mistakes or no mistakes. Each line is divided into groups of words with a letter underneath. If there is a mistake, ring the correct letter(s). If there is no mistake ring X.

- 1) Mr. Bessel was the A senior partner in the B firm of Bessel, Hart, C and Brown, of St. D **X**
- 2) Paul's Churchyard, A and for many years he B was well known among C those intrested D **X**
- 3) in psychical research A as a liberal-minded B and consciencious investigator. He was C D **X**

Each part of the test includes an English exam paper. Each paper has a comprehension section involving an extract from a classic book; this is the most difficult type of text children could face. The test then has a second section which looks at Grammar, Spelling and Punctuation. CEM exams historically have always included comprehension sections so this work will ensure they are fully prepared for that as well as enhancing their GSP skills should those question types emerge this year.

8) The dogs tail got trapped in the door.

9) Jason's mothers cottage is right next to his girlfriends house.

10) "the weather is glorious," said Patrick.

SHUFFLED SENTENCES TEST

These sentences intentionally use very difficult vocabulary. If you do not know a word, use your personal words list.

Section 1

Order your words in a correct sentence. Identify the one word in each sentence which is not needed. Remember to work actively, try and find the subject of each sentence and come back to any you don't get.

1. barb a fished ended hook with the double
2. face a of Janes' look anguish raucous crossed

3. ear

4. tri

5. pio

Section

Write

1. The

2. The

CEM uses a number of known question types. We cover them here but due to the nature of CEM tests, one never knows what may or may not come up. This sheet looks at shuffled sentences and then touches on homophones and spelling (both of which CEM could include if they wished to).

Section 3

Choose and write out the correct spelling from each pair given

1. harrass, harass _____ disappear, disappear _____

Alternative Word Test

Circle the word that fits best with each sentence.

1. The boys were chasing along
before
to
after the ball as it bounced down the road.

This is an alternative word cloze sheet. These questions often come up in CEM tests. Children will work on these each week.

3. Mums always try to take good care of they're
them
their
there children.

4. The Saracens rugby team came out in the second half to set overhauling their opponents at
in
about
on

5. Swinging from a trapeze is not what most people would a normal pastime see
contemplate
think
consider

Opposites Test

Some of these words will be new to you. Try to find as many as you can. This test includes two styles of question.

Section 1

Fill in the blanks in the word on the right so that it has an **opposite meaning** to the word on the left.

smart s l _ _ e n _ y

mean g e n _ _ _ u _

Opposites questions are a regular feature of CEM but are asked in different ways. Therefore we include two forms of the test on our opposites sheet to ensure full preparation.

Section 2

Choose the word on the right which is **most opposite** in meaning to the word on the left.

perimeter	circuit	circumference	interior	border
queasy	ill	nauseous	well	happy
hesitant	intrusive	stubborn	opinionated	decisive
participated	abstained	disregarded	disengage	proffered
aggravation	brazen	hurtful	dignify	solace

Synonyms Test

Some of these words will be new to you. Try to find as many as you can. This test includes two styles of question.

Section 1

Fill in the blanks in the word on the right so that it has a similar meaning to the word on the left.

punish

r e b _ _ _

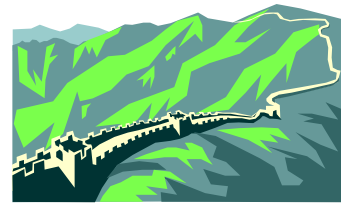
In the same way as opposites; synonyms are also a feature of CEM tests. We include lots of synonyms work in every part of the course to ensure a sound knowledge of them.

Section 2

Choose the word on the right which is most similar in meaning to the word on the left.

sturdy	hard	robust	vigorous	imperative
bleak	rough	sorrowful	desolate	austere
amend	improve	consider	deceive	deface
lose	loose	misplace	lost	found
resonate	reason	echo	repeat	shatter

The Great Wall of China



The Great Wall of China, a true wonder of the world, was built more than 2,000 years ago. It is a series of fortifications made of stone, brick, tamped earth, and wood. Wider and taller than a house, it was built to protect the Chinese Empire from attacks from the Mongol tribes to the north. It winds, like a gigantic dragon, for over 5500 miles across deserts and grasslands and over mountains and hills. It is still there today and it can be seen from space.

The Emperor who wanted the wall built was cruel. He forced thousands of Chinese men to leave their homes and work on the wall. Many of them died of starvation and were buried in the wall.

This story about

Meng Jiang-nu lives

her husband and

Meng had no idea

that she must set

She reached the

Soldiers were ordered

who knew her husband's

body, and the gods

CEM tests often include a comprehension section. We include a comprehension test for children in each part of the course in order to keep their skills fresh.

worked to death.

suffered:

or's soldiers took

k for many years.

ome, she decided

ted and starving.

eng met a worker

searched for his

ext day the cruel

Emperor came to inspect the wall. He saw Meng and decided he wanted her for one of his wives. He offered her a jewelled tomb for her husband if she would marry him. As soon as her husband had been placed in his tomb, Meng looked with hatred at the Emperor and threw herself off the wall into the raging river below. As she drowned, the gods changed her into a beautiful silverfish.

1. How long has the Great Wall been standing?

2. Why was it built?

3. How long is it?

4. Who ordered it to be built?

5. Who built it?

6. What was the high price of building the wall?

7. Why did the soldiers take Meng's husband?

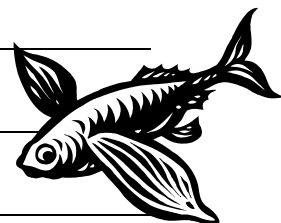
8. How were the builders treated?

9. Who helped Meng find her husband's body?

10. What made Meng agree to marry the Emperor?

11. Why did Meng kill herself?

12. What happened to Meng as she was dying?



Complete the word on the right which has the **most opposite** meaning to the word in bold on the left.

Example

	host	swarm	horde	guest	party
1/	humble	menial	modest	arrogant	successful
2/	curse	hate	bless	blasphemy	harangue
3/	trivial	unimportant	incident	error	serious
4/	disperse	scatter	dispel	gather	associate

There is a timed test focussing exclusively on CEM style Verbal Reasoning questions in each part of the course. In this test there is a comprehension with 12 questions, a similar words test, a shuffled sentences test, two opposites tests, two synonyms tests and an alternative word test. Each test is designed to reflect the variety of questions CEM has most recently been using.

__ /10

Complete the word on the right so that it has a **similar meaning** to the word on the left.

Example:

	treacherous	d <u>a</u> n <u>g</u> e r <u>o</u> u s
1/	blatant	b _ _ z _ n
2/	scarce	_ _ _ e
3/	admonish	rep _ _ _ an _
4/	adversity	mi _ _ ort _ _ _
5/	diminutive	p _ _ _ te
6/	mock	t _ ia _
7/	din	_ p _ _ ar
8/	surround	en _ _ _ c _ _
9/	acute	s _ _ _ p
10/	trick	_ _ _ x

__ /10

VERBAL REASONING VARIETY TEST 1

Marks

1. Inside the brackets write the letter which will end the first word and begin the second.

S L A (....) A P L E

.....

2. Complete this analogy.

MEAT is to BUTCHER as is to BAKER

.....

3. Underline the word which cannot be made from some or all of the letters of the word MARRIAGE, using each letter not more than once.

GRIME MIRAGE MIRE MEAGRE RAGE

.....

4. **As CEM could change the types of question they**
5. **ask at any time and introduce an entirely new**
6. **format, we include a VR variety section into**
7. **every part of the course. This is to stretch**
children and ensure that they are thinking
flexibly.

.....

.....

.....

.....

.....

snow snout sneer snapper snail

8. Inside the brackets write the word of three letters which will complete all five words.

... scape ... horse ... shore ... weed ... shell (. . .)

.....

9. Underline the two words below which are opposite in meaning.

prepare wait depart stand arrive arise

.....

10. In a certain code TPMFNO means SOLEMN. What does MFNPOT mean in the same code?

(.....)

.....

11. Underline the word which does not fit in with the others.

sparrow rook lark crow butterfly eagle

.....

12. Write the word which has both these meanings.

(a) to detect or notice something

(b) a speck or a blemish

(.....)

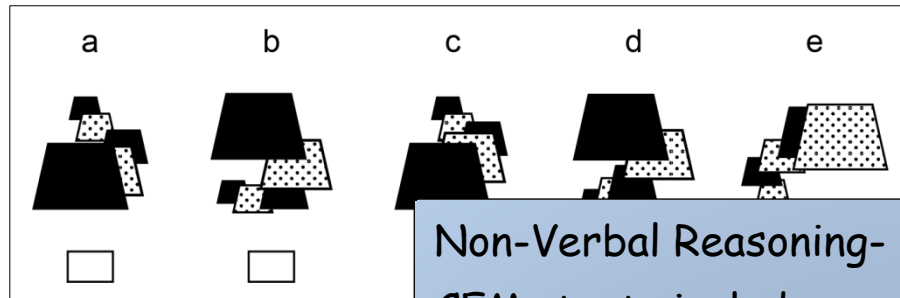
.....

13. If 2 3 4 5 6 means OCEAN, then 3 5 6 2 4 means

.....

Non-Verbal Reasoning

Example

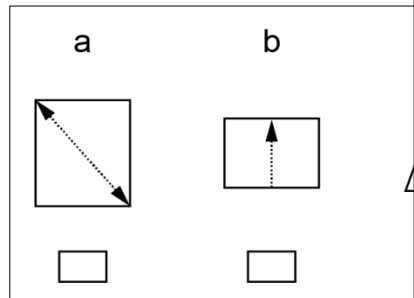


Explanation

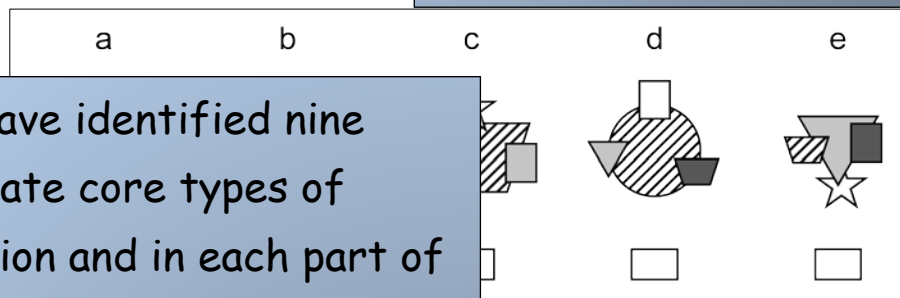
Answers A, B, C and D all start with a solid shape then alternate between dotted and solid shapes.

Non-Verbal Reasoning-CEM- tests include non-verbal reasoning and it's important that children learn flexibly so that they can deal with any question types which may emerge such as spatial questions. We believe the best way to revise is by seeing examples and then doing sample questions with a review

1



2



3

We have identified nine separate core types of question and in each part of the course children will focus on each type individually and then do some practice questions. This sheet is for the Odd Ones Out type.

