Sample Test 1 - Mathematics - Time suggested 20 minutes

Examples similar to some of the questions in the Entrance exam follow below. The examples are a sample and do not constitute a definitive syllabus.

Answers to be marked on separate answer sheet. All questions are multiple choice.

1. What is the missing number in the number sentence $24 \div [\ ] = 3$?
   A 21  B 8  C 6  D 36  E 3

2. How many triangles are there in this figure?

   ![Triangle Diagram]
   A 1  B 3  C 4  D 5  E 0

3. In the number 3534 the 5 means
   A 5 units  B 5 hundred and thirty four  C 5 hundreds
   D 5 tens  E 5 thousands

4. Which of these fractions is NOT greater than $\frac{1}{2}$?
   A $\frac{2}{3}$  B $\frac{7}{8}$  C $\frac{3}{8}$  D $\frac{3}{4}$  E $\frac{9}{16}$

5. Which number is divisible both by 4 and 6?
   A 16  B 12  C 18  D 20  E 46

6. Which number is the same as 0.75?
   A 75  B $\frac{1}{4}$  C $\frac{5}{7}$  D $\frac{3}{4}$  E $\frac{7}{5}$

7. A washing machine costs £300 + 17.5% VAT. How much is the VAT?
   A £17.50  B £1.75  C £52.50
   D £30.00  E £175.00
8. The chart shows which pets 48 children voted as their favourite.

How many children did not vote for horses?
A  6     B  42     C  12     D  36     E  30

9. On a day out the Brown family drove to Settle a distance of 36 miles. They came home by a different route which was $1\frac{3}{4}$ times as long as their route there. How long was their route home?
A  27 miles     B  36 miles     C  63 miles
D  72 miles     E  50 miles

10. A bottle holds 1.5 litres of lemonade. Mark pours out six 100ml glasses. How much is left in the bottle?
A  9 ml     B  15 ml     C  150 ml
D  600 ml     E  900 ml

11. What is the area of this shape?

A  22 sq.cm     B  20 sq. cm     C  55 sq. cm
D  25 sq. cm     E  16 sq. cm
One circle has 0 dots, two circles have 2 large dots, three circles have 4 large dots as shown. Use the diagrams to answer questions 12 and 13.

12. How many large dots are there for 6 circles?
   A 8  B 14  C 12  D 10  E 16

13. How many large dots are there for 50 circles?
   A 98  B 48  C 100  D 56  E 120

Shape B is a block of butter and shapes A, C, D and E are blocks of butter with a piece cut off. Use the diagrams to answer questions 14 and 15.

14. Shape B has 12 edges. How many edges has shape C?
   A 15  B 16  C 12  D 7  E 10

15. Which shape has the least number of corners?
   A  B  C  D  E
Cheapo Trains run from Lym to Yar and return. The costs for adults, children and dogs are given in the table. Use this table to answer questions 16 and 17.

<table>
<thead>
<tr>
<th>From Lym to Yar</th>
<th>ADULT</th>
<th>CHILD</th>
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</thead>
<tbody>
<tr>
<td>Single</td>
<td>£1.66</td>
<td>£0.83</td>
</tr>
<tr>
<td>Return</td>
<td>£3.32</td>
<td>£1.66</td>
</tr>
<tr>
<td>Dog accompanying passenger</td>
<td>£0.83 Single</td>
<td>£1.66 Return</td>
</tr>
</tbody>
</table>

16. How much would it cost Mr and Mrs Brown, their daughter and their pet dog to travel to Yar with Return tickets?

A  £4.98  B  £8.20  C  £9.96  D  £4.20  E  £7.00

17. Mr and Mrs White want to travel from Lym to Yar, Single with their dogs. They only have £5 to spend for the travel. What would be the most number of dogs they could take with them?

A  5  B  2  C  4  D  3  E  6

The graph shows the journey of a group of walkers, showing their distance from the start during the day. Use the graph to answer questions 18, 19 and 20.

18. At what time were they 6 km from the start?

A  11.00  B  11.30  C  11.15  D  11.10  E  11.45

19. How far from the start were they at 13.45?

A  9 km  B  12 km  C  13 km  D  10 km  E  11 km

20. For which time interval were they not moving?

Read this passage very carefully, then answer the questions that follow.

I don’t want to go,’ muttered Stephen, as he stood at the kitchen window and stared out at the dreary dawn.
‘But you promised,’ whispered Catherine in a frenzy of exasperation.
‘I could lock myself in my room.’

‘No, you couldn’t. They’d come knocking at your door, bullying you to go with us. And then …’

and then?

He sighed, knowing the truth. His great anger would burst out of him. And God knows what abuse he might not heap on his uncles and their heartless Centenary Celebrations. Catherine’s gala day would be ruined from the start.

He stared out again at the driving rain.

‘I’ll get as wet as an otter,’ he grumbled, turning back for a last warm at the fire.

She went on cutting him great wedges of bread and cheese.

She was sure of him now. He would keep his word. She and Martha could enjoy the great day.

He watched her gloomily, waiting for her to finish. She was barefoot, still in her nightdress, smiling to herself. Heavens! thought, that the wearing of muslins and a new bonnet should mean so much to a girl! He was disgusted by her happiness. Ashamed of it. Had she not the wits to see that the whole thing was a mockery? If it were not that she was his sister - and that he was fond of her - he’d be damned if he’d go shuffling off furtively like this before they were all up. He’d stay and tell his two pestilential uncles that they and the Duke of Ullswater and the landed gentry of Westmorland were a dishonest pack of hypocrites - and have done with it!

Excited, still smiling, her work done, Catherine ran to the window, unlatched the casement, and leaned far out to scan the full stretch of sky between the two ranges of hills.

‘Look!’ she whispered eagerly. ‘There’s a rim of light westward behind the Pike. It’ll be fine before eleven.’

She turned back into the room, snatched up the bread and cheese, and hurried him to the threshold. ‘Take your hat and the shepherd’s cloak,’ she said. ‘You’ll be all right when the wind blows off. You’ll like it up there. You know you will.’

A loud creaking started up in the house behind them.

‘Quick!’ she said hoarsely, thrusting the food into his hands.

‘Quick! Or it’ll be too late!’

She stood watching him impatiently as he loped off across the farmyard, longing for him to be safely away before his escape was discovered.

‘Where is he going?’ asked a voice at her side.

She looked round, half angry, half guilty.

It was Martha, her school-friend, in her nightdress.

‘To the hills,’ she replied shortly. ‘Why did you get up?’

‘I wondered where you were. It was cold in that great bed without you.’

Martha looked over Catherine’s shoulder at the lonely figure trudging up the fell path in the driving rain.

‘Isn’t Stephen coming with us to watch the processions?’

‘No’
Here are the questions. Now try to answer as many as you can.

1. Which pair of adjectives best describe ‘dreary’ in line 2?
   A  dull and wet
   B  overcast and light
   C  bright and clear
   D  sad and weary

2. Why is *promised* in line 3 in italics?
   A  it’s a typing error
   B  it emphasises Catherine’s happiness
   C  it stresses and reminds Stephen of what he has said
   D  it makes the printing look better

3. Which of the answers below best describe her ‘frenzy of exasperation’ line 3?
   A  she screamed with anger
   B  she shouted loudly
   C  she was completely exhausted
   D  she was outraged that he might not keep his word

4. Which is the best description of ‘bullying’ in line 5?
   A  hitting hard
   B  saying hurtful words
   C  insisting forcibly with words
   D  ignoring him

5. Why is ‘Centenary Celebrations’ (line 8) in capital letters?
   A  it is a happy occasion
   B  it is a proper noun
   C  it comes at the end of the sentence
   D  it is a part of direct speech

6. When Stephen says ‘I’ll get as wet as an otter,’ it is an example of:
   A  simile
   B  metaphor
   C  verb
   D  proverb

7. The word ‘gloomily’ (line 14) is an adverb which of the following is not an adverb?
   A  badly
   B  happily
   C  sadly
   D  dreary
8. How did Catherine’s actions affect her brother?
   A he liked her new hat
   B he was pleased she was happy
   C he would do anything for her
   D he was ashamed of what she was doing

9. The past tense of scan is formed by doubling the ‘n’ and adding ‘ed’ i.e. scanned. Which of the following also forms its past tense in the same way?
   A gather
   B brag
   C unlatch
   D whisper

10. How does the author show Catherine is agitated in lines 29 and 30?
    A she uses long words
    B she stammers
    C she uses short sentences
    D she speaks kindly

11. ‘it’ll in line 30 is an example of which tense?
    A future
    B imperfect
    C present
    D past

12. Why did Catherine watch ‘impatiently’ in line 31?
    A she didn’t feel well
    B she was feeling short-tempered
    C she didn’t trust him to do as he promised
    D she was anxious for him to be away as quickly as possible

13. Read the following sentence ‘Martha looked over Catherine’s shoulder at the lonely figure.’
    Which of the following is the verb in the sentence?
    A looked
    B over
    C shoulder
    D lonely

14. The piece ends with a single word ‘No’ what impression is Catherine giving to Martha?
    A she is bored with her
    B she should ask no more questions
    C she doesn’t like her
    D she cannot think of anything else to say
15. What kind of writing is this piece?
   A poetry
   B comedy
   C biography
   D narrative

16. You want to find Centenary Celebrations in the book. What would be the quickest way to find a page which refers to them? Would you look?
   A in the Index
   B in the Contents page
   C in the Glossary
   D through the pages of the book

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Read lines 1 – 5 below and answer questions 17 – 20

1. Stephen was very unhappy about leaving the house in such a way. The wether was atrocious and
2. the rain penetrated the cloak he was ___________. He was thoroughly wet and miserable.
3. Suddenly through the mist he saw an overhanging rock and gratefully took shelter there. It did not
4. entirely protect him from the driving rain but afforded him some respite from its ferocity. He thought
5. about what he had done for his sister and how he despised himself for agreeing to her request.

17. Which of the following words would you insert in the blank space on line 2?
   A waring
   B warring
   C whering
   D wearing

18. Look carefully at lines 1 & 2. Which word is spelt incorrectly?
   A wether
   B atrocious
   C penetrated
   D cloak

19. Look carefully at line 4. Which word is spelt incorrectly?
   A protect
   B afforded
   C respite
   D ferocity

20. On line 5, the word despised is spelt wrongly, which is the correct spelling?
   A dyspized
   B despised
   C dispised
   D despished
Sample Test 3 – Verbal Reasoning

Examples of the kind of questions to be expected. All answers are to be marked on a separate answer sheet. All questions are multiple choice.

1. Find ONE letter which will go in BOTH brackets to complete all the words.
   
   eas (? ) eam   yeas (? ) rip

   A. y   B. l   C. e   D. s   E. t

2. Only ONE of the words will go equally well in BOTH sets of brackets. Find the word.
   
   (itch  sore  .......)   (hasty  reckless  .......)  

   A. wild  B. rash  C. proud  D. unhappy

3. Multiply the first figure by the sum of the last two figures
   
   12,  4,  2.

   A. 6   B. 18   C. 72   D. 96

4. Find a word to go in the second brackets which is made by using the same rule as the word in the first brackets.
   
   meat (mess) loss swim ( ? ) bean

   A. mean  B. news  C. swan  D. bins

5. Find the next letter or number in the series
   
   1,  3,  7,  15,  31  ?

   A. 32  B. 48  C. 62  D. 63  E. 64

6. These three words are given in code. The order is mixed up.
   
   DEAL      5431
   CLAD      4621
   LIED      1234

   Find the code for the following word and mark its letter on your answer sheet: DELL

   A. 5422  B. 1234  C. 1244  D. 4621  E. 4612
# Answers to Sample Questions

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<th>Test 1 Sample Mathematics Questions</th>
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