The following represents a sample of the sorts of questions asked in the Maths Selective Eligibility Test. The sample does not represent all of the question types used in recent years but should provide an idea about the level of difficulty and the way the questions are laid out. Please note that calculators and other electronic devices are not permitted in this test.

Sample 1: Candidates are given a multiplication sum to work out with five possible answers labelled A to E. They choose the correct answer.

Example:

Work out   42 x 18

A. 727
B. 736
C. 748
D. 756
E. 765

Answer is D

The answer is D; it is possible to ignore three of the answers. The answer cannot be A or E because their last digit is odd. Also, the last digit has to be six (because 2 x 8 is 16) and so answer C can also be ignored.

Sample 2: A problem is presented in text (rather than in numbers) and candidates have to choose the correct answer from five possibilities.

Example:

John and David are buying a new train set which costs £27. Because the train set will be set up in John's house, they decide to split the cost in the ratio 3:2. Work out how much each of them will pay.

A. John will pay £18 and David will pay £9
B. John will pay £16.20 and David will pay £10.80
C. John will pay £9 and David will pay £13.50
D. John will pay £13.50 and David will pay £13.50
E. John will pay £10.80 and David will pay £16.20

The answer is B. To find the answer, you need to divide the total price by 5 (£27 ÷ 5 = £5.40) and then times the result by the ratios 3 and 2 (so £5.40 x 3 = £16.20 and £5.40 x 2 = £10.80). Make sure that the ratio is expressed in the correct way (i.e. John pays 3 parts of the price and David pays the other 2)

Sample 3: Candidates have to multiply two fractions and give the answer in its simplest form, choosing from five possible answers.

Example:

Find ⅓ x six eighths and give your answer as a simplified fraction.

A. $\frac{6}{24}$ B. $\frac{1}{4}$ C. $\frac{3}{12}$ D. $\frac{1.5}{6}$ E. $\frac{3.2}{8}$

The answer is B, as this is the simplest form of the fraction.

Sample 4: Candidates are given one or more angles and have to work out the remaining angle(s).

Example:

In a right-angled triangle, one of the three angles is 46°. The other angles are:

   A. 54° and 46°
   B. 44° and 90°
   C. They are both 46°
   D. 90° and 46°
   E. It's not possible to say

The answer is B. The total must add up to 180°, and because it is a right-angled triangle, we know that one of the other angles must be 90°. The third angle is the difference between 180° and 136°, namely 44°.

Sample 5: Candidates are given sums involving decimals and have to choose the correct answer from five possibilities.

Example:

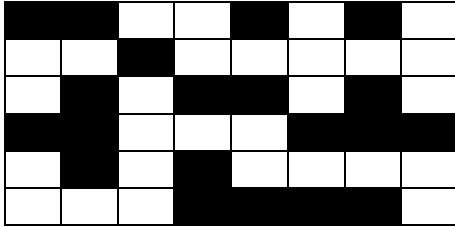Work out: 93.45 – (20.45 – 12.17)

   A. 101.73
   B. 86.17
   C. 85.17
   D. 60.93
   E. 60.83

The answer is C as 93.45 – (20.45 – 12.17) = 93.45 – 8.28 = 85.17

Sample 6: Candidates are shown a shape and have to work out how much of it is shaded, choosing the correct answer from five possible answers.

Example:
Work out what fraction of the shape below is shaded black and express it in its simplest form

A. $\frac{1}{2}$ B. $\frac{20}{48}$ C. $\frac{3}{10}$ D. $\frac{10}{24}$ E. $\frac{5}{12}$

The answer is E. There are 48 squares in total, of which 20 have been shaded black. The fraction $\frac{20}{48}$ can be simplified to $\frac{5}{12}$.