Cambridge Secondary 1 Progression Test
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Teacher instructions

approx. 15 minutes

Mathematics Paper 3

Stage 9

READ THESE INSTRUCTIONS FIRST

1. Students should only have pens and answer sheet. They are not allowed to have any other mathematical equipment or paper for working out.

2. The teacher will need a watch or clock that tells the time accurately in seconds.

3. The teacher should read each question twice slowly and then wait the correct number of seconds (5 seconds for questions 1–5, 10 seconds for questions 6–14 and 15 seconds for questions 15–20) before moving on to the next question.

4. Students are not allowed to ask questions during the test.

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Read the text in italics to the students:

Listen carefully to these instructions. You will not have the opportunity to ask questions during the test.

You will be asked 20 questions. On your sheet there is an answer box for each question. You should work out your answers in your head. Do not try to write down your calculations because this will take up too much time. For some of the questions, important information is already written down for you on the sheet.

Each question will be read aloud twice. You will then have time to work out your answer. If you don't know the answer to the question, leave it and wait for the next question. If you want to change your answer, put a cross through your first answer and write your new answer nearby.

For the first group of questions you will have 5 seconds to work out each answer. For the second group of questions you will have 10 seconds to work out each answer. For the third group of questions you will have 15 seconds to work out each answer. Each question is worth the same amount.

Do you have any questions about the test?

(Answer any questions the students may have.)

Write your name on the front of the answer sheet.

(Begin the test.)

Now we are ready to start the test.

For this first group of questions, you will have 5 seconds to work out each answer and write it down.

1   Work out one fifth of twenty five point five.

2   Look at the rectangle on your answer sheet.
           Write down an expression for the area of this rectangle.

3   Look at the two triangles on your answer sheet.
           B is an enlargement of *A*.
           What is the scale factor of the enlargement?

4   Divide negative thirty six by negative six.

5   Look at the graph on your answer sheet showing the number of customers at a restaurant.
           Describe the trend shown by the graph.

For this group of questions, you will have 10 seconds to work out each answer and write it down.

6   The term-to-term rule for a sequence is subtract three.
    The first term of the sequence is twenty.
    What is the fourth term of the sequence?

7   Apples cost two dollars and twenty cents per kilogram.
    What is the cost of one point five kilograms?

8   Write down the three things you need to describe a rotation fully.

9   What is one hundred and twenty multiplied by zero point zero three?

10 Look at the two triangles on your answer sheet.
    Triangle *DEF* is a rotation of triangle *ABC*.
    Write down the size of the angle marked at *D*, and the side length *EF*.

11 Find the product of the two terms on your answer sheet.

12 Look at the four numbers on your answer sheet.
    Put a ring around the number that has a different value to the other three numbers.

13 Look at the diagram on your answer sheet showing the number of glasses of water drunk by Anna
    and Ben during one week.
    On which two days did Anna drink more glasses of water than Ben?

14 Look at the expression on your answer sheet.
    Simplify this expression.

Questions 15 - 20 are on the next page

For this group of questions, you will have 15 seconds to work out each answer and write it down.

15 Sara drives for three and a half hours at an average speed of eighty kilometres per hour.
How far does Sara drive?

16 Look at the sequence on your answer sheet.
Write down an expression for the *n*th term.

17 Work out two to the power of negative two.

18 Look at the graph on your answer sheet.
The graph shows that the cost, *c* dollars, is directly proportional to the number of pens, *n*.
Write down an equation connecting *c* and *n*.

19 Look at the five numbers on your answer sheet.
I take out one of the numbers. The median of the remaining four numbers is eight point five.
What number do I remove?

20 A cuboid has a volume of three point two centimetres cubed.
What is the volume of the cuboid in millimetres cubed?

Now put down your pen. The test is finished.