



basic education

Department
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS NATIONAL SENIOR CERTIFICATE EXAMINATIONS

MATHEMATICS P1

2021

MARKS: 100

TIME: 1 hour

This question paper consists of 10 pages and 1 information sheet.

01/00

190/2021

QUESTION 1

1.1 Solve for x .

1.1.1 $x^2 + 3x + 2 = 0$ (5)

1.1.2 $2x^2 + x - 3 = 0$ (Solve partially – at least one (1) of the two parts) (5)

1.1.3 $x^2 = 49$ (5)

1.2 Given $y = \frac{2x}{x+1}$

1.2.1 Solve for x (5)

1.2.2 Hence solve for x : $2x + x^2 = 49$ (5)

1.3 Without using a calculator, calculate the value of $\sqrt{\frac{25x^2 + 10x + 1}{121x^2}}$ (5)

1.4 Solve for x and y simultaneously:

$(x + y + 1) = \frac{1}{x}$ and $\frac{1}{y} = 4y + 1$ (5)

(10)
(20)

QUESTION 2

2.1 The first term of an arithmetic sequence is 2 and the 17th term is 38.

Determine:

2.1.1 a_{10} (5) Difference of the sequence

2.1.2 The number of terms in the sequence if the last term of the sequence is 47 (5)

2.1.3 The sum of the first 40 terms in the sequence (5)

2.2 $10, 15, 20, 25, \dots$ is a positive number pattern.

2.2.1 Write down the 10th term of the number pattern (5)

2.2.2 Determine the n^{th} term of the number pattern (5)

2.2.3 Determine the maximum value of the following number pattern:

$-10, -\frac{9}{2}, -7, -\frac{5}{2}, \dots$ (5)

(10)
(20)

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