

# GRADE 12 MATHEMATICS NOVEMBER EXAMINATION PAPER 1

#### QUESTION 1

#### 1.1 Solve for a

1.1.1 
$$x^2 - 9x + 20 = 0$$
 (3)

1.12 
$$x(x+3)-1=0$$
 (correct to 2 decimal points) (3)

1.13 
$$x^2 + 7x < 0$$
 (3)

#### 1.2 Solve simultaneously for a and y if.

$$2x - y = 8$$
, and  
 $x^2 - xy + y^2 = 29$ 

[24]

#### QUESTION 2

Million.

2.1 The terms p: (2p + 2): (5p + 3) form an arithmetic sequence.

#### Determine:

- 2.1.1 The value of p.
- 2.1.2 The rule in the form of  $a_n = a + (n-1)d$ .
- 2.1.3 The 15th term of the sequence.
- 2.2 z. y. 81 is a peometric sequence. And y = 2x - 5

All terms in the sequences are integers.

Calculate the values of x and y.

Wattematica

#### QUESTION 3

Given the sequence 2. 6: 10: 14: ....

- 3.1 What type of sequence is this? Justify your answer by calculation.
- 3.2 Calculate T.,
- 3.3 Which term has a value of 322?
- 3.4 Determine by palculation if 1294 is a term in the sequence? PGB.

#### QUESTION 4

The sketch below shows the graph of  $f(x) = \frac{-1}{x-x} + q$ . The asymptotes of f intersects at B(-1,y). The Point  $D\left(S;4\frac{y}{z}\right)$  is a point on the graph.



- 4.1 Determine the value of p. 170
- 42 Proof that a = 5.
- 4.3 Calculate the x-intercept of f.
  - Determine the equation of the vertical asymptote of  $h \notin h(x) \equiv f(x+4)$ .
- 4.5 One of the symmetry axes of f is an increasing function. Determine the equation of the symmetry sais.
- 4.6 Give the values a for f(x) ≥ x +6. (2)
- 4.7 Determine the equation of g, the reflection of f in the x-axis and move two units to the right.

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make them useful as teaching aids in classes on the history of game design and economics but they are not being written specifically as instructional books and can be enjoyed by anyone with a passion for video game history Frontiers of Heterodox Economics Tae-Hee Jo, Zdravka Todorova, 2015-07-30 This collection of essays honors the life and work of one of the most prominent and fervent heterodox economists Frederic S Lee who has been at the heart of the heterodox economics movements for the past three decades Authors in this book demonstrate that heterodox economic has transcended the criticism of mainstream economics and more importantly that constructive developments are in the making by way of cross communications among various heterodox economics traditions Frederic S Lee s contributions to heterodox economics are centered on three themes the making of a history and identity of heterodox economics heterodox microeconomics and the heterodox analysis of social provisioning Part I addresses the importance of history theory research methods and institutions in the making of the identity of heterodox economics as an alternative to mainstream economics Part II delves into heterodox microeconomic theories in particular investment pricing competition markets and market governance as foundations of heterodox macroeconomic analyses Part III expands the analysis of the capitalist social provisioning process with an emphasis on its subsystems and their relationships over historical time Part IV encapsulates the life and work of Frederic S Lee Throughout his intellectual life Frederic S Lee has shown to many that the development of heterodox economics is rendered possible by unselfish and ceaseless efforts to build both theory and institutions Essays in this book attest that establishing an alternative critical theory to the status quo is not only possible but also serviceable to the Seduction by Contract Oren Bar-Gill, 2012-08-23 Seduction by Contract explains how consumer majority of the population contracts emerge from market forces and consumer psychology Consumers predictable mistakes they are short sighted optimistic and imperfectly rational compel sellers to compete by hiding the true costs of products in complex misleading The Democratic Dilemma of American Education contracts Only better law can overcome the market's failure Arnold Shober, 2018-04-19 This compelling new book asks How can American education policy be consistent with democratic ideals Robust democracy is the combination of participation self rule equality understanding and inclusion but these norms can produce contradictory policy Local control in education policy can undermine educational equality Participation in teachers unions can improve working conditions but thwart self rule by local taxpayers The Democratic Dilemma of American Education draws on contemporary research in political science and education policy to offer remarkably balanced insights into these challenging issues Expertly navigating through local state and federal layers of education policy Arnold Shober examines contemporary controversies over education governance teachers unions and collective bargaining school funding school choice academic accountability and desegregation Shober describes the inherent practical dilemmas of current policy and the difficulties policymakers face in overcoming them to produce lasting educational reform in a democratic federal system of government Timely engaging and accessible this is the ideal resource for courses in public policy as well as

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