

HILLCREST HIGH SCHOOL



GRADE 9

JUNE EXAMINATION 2016

MATHS NON CALCULATOR PAPER 2

TIME : 1 HOUR

MARKS : 70

EXAMINER : MR REUBEN
MODERATOR : MRS WOODROW

INSTRUCTIONS TO CANDIDATES

1. This paper consists of 6 questions.
2. Answer ALL questions.
3. **NO CALCULATORS ARE ALLOWED FOR THIS EXAMINATION .**
4. **ALL CALCULATIONS MUST BE SHOWN CLEARLY.**
5. Indicate units of measurement, where applicable.
6. Write neatly and legibly.

Question 1

State whether the following statements are true or false :

| | | |
|-----|--------------------------------------|-----|
| 1.1 | π is an irrational number | (1) |
| 1.2 | $12\% = \frac{3}{25}$ | (1) |
| 1.3 | $-\frac{2}{0}$ is undefined | (1) |
| 1.4 | $x^2 = 25$; $\therefore x = 5$ only | (1) |
| 1.5 | $\sqrt{x^2 + y^2} = x + y$ | (1) |
| | | [5] |

Question 2

Given the following expression : $-3x^2 + 7x^3 + 2 - 4x$

| | | |
|-----|--|-----|
| 2.1 | What is the degree of the expression ? | (1) |
| 2.2 | What is the constant in the above expression ? | (1) |
| 2.3 | What is the co-efficient of the x ? | (1) |
| 2.4 | Rewrite the expression in descending powers of x . | (1) |
| 2.5 | Calculate the value of the expression if $x = -2$. | (3) |
| | | [7] |

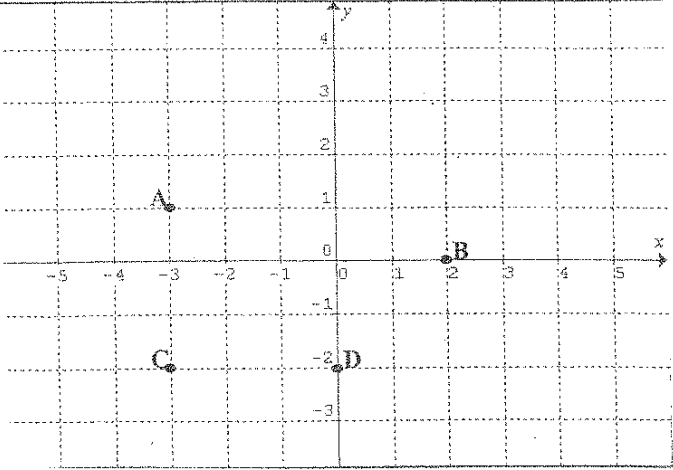
Question 3

| | | |
|-----|---|------|
| 3.1 | Calculate : $7^2 \div 7 - 4 \times 2$ | (2) |
| 3.2 | Express $\frac{7}{20}$ as a percentage | (2) |
| 3.3 | Simplify : $5x - 4 - 7x + 8x^2 - 2 - 3x^2$ | (2) |
| 3.4 | Arrange in order from smallest to biggest : $\frac{3}{5}$; $\frac{1}{4}$; $\frac{5}{8}$ | (2) |
| 3.5 | Find the highest common factor (HCF) : $12x$; $6x^2$; $24xy$; $6x^3$. | (2) |
| 3.6 | Solve for x : $\frac{3x}{2} = -4$ | (2) |
| 3.7 | Calculate the constant ratio between the following : 5 ; -15 ; 45 ; $-135 \dots$ | (2) |
| 3.8 | If the length of a rectangle is $(2x - 3)$ units and the breadth is $(x - 4)$ units, calculate the area in terms of x . | (3) |
| | | [17] |

Question 4

| | | | | | | | | |
|-------|---|---|----|----|----|----|------|--|
| 4.1 | Write the ratio $16 : 24$ in the simplest form. | | | | | | (2) | |
| 4.2 | Divide $240g$ in the ratio $5 : 3 : 4$. | | | | | | (3) | |
| 4.3 | If $3kg$ of potatoes cost R42, how much will $7kg$ of potatoes cost? | | | | | | (3) | |
| 4.4 | Durban is $600km$ from Johannesburg. How long does it take to cover the distance by car, when travelling at an average speed of $120km/h$? | | | | | | (3) | |
| 4.5 | Examine the table : | x | 2 | 3 | 6 | 9 | 25 | |
| | | y | 10 | 15 | 30 | 45 | | |
| 4.5.1 | Are the x and y values in direct or indirect proportion? | | | | | | (1) | |
| 4.5.2 | Write an equation that represents the relationship between x and y. | | | | | | (2) | |
| 4.5.3 | Determine the value of y if $x = 25$. | | | | | | (2) | |
| | | | | | | | [16] | |

Question 5

| | | | |
|-----|--|--|-----|
| | Choose the correct answer. Write the letter only on the table on the table provided. | | |
| 5.1 | If $3 + 2x = 15$, then : A. $x = 3$ B. $x = 6$ C. $x = 9$ D. $x = 12$ | | (2) |
| 5.2 | In the graph below, which point has been incorrectly plotted ?  | | (2) |
| | A. $A(-3; 1)$ B. $B(2; 0)$ C. $C(-3; -2)$ D. $D(-2; 0)$ | | |