

Name: .....

ID: .....

Group: .....

Subject: Math.

Date: Monday 18/3/2013

Mid-Term Exam

**Question 1: : (12 marks)**

Choose the correct answers and write them in the table below:

1) The result of  $(-3a \times 10a)$  is:

A  $(30a)$

B  $(-30a)$

C  $(-30a^2)$

D  $(30a^2)$

2) The translate of a number less than 5 is :

A  $(x - 5)$

B  $(5 - x)$

C  $(x + 5)$

D  $(x > 5)$

3) A solution for the equation  $y - x = 3$  is:

A  $(-1, -2)$

B  $(1, 2)$

C  $(-1, 2)$

D  $(1, -2)$

4) The slope for the vertical line is:

A  $(0)$

B *(not define)*

C  $(1)$

D  $(\frac{1}{2})$

5) The result of  $(5x)^{-2}$  is:

A  $(5x^{-2})$

B  $(5x^2)$

C  $(\frac{1}{25x^2})$

D  $(\frac{1}{5x^2})$

6) The value of  $x + 2y$ , when  $x = -3$  and  $y = 2$ , is:

A  $(-7)$

B  $(7)$

C  $(-1)$

D  $(1)$

7) The degree of the polynomial  $9x^3y - 10x^4y^2 + 3xy + 7yx^2 - 5$  is:

A  $(6)$

B  $(3)$

C  $(4)$

D  $(2)$

8) The scientific notation of the number 0.000000056 is:

A  $(5.6 \times 10^8)$

B  $(5.6 \times 10^{-8})$

C  $(56 \times 10^{10})$

D  $(56 \times 10^{-10})$

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9) The factorization of  $x^2 - 16x + 64$  is:

A  $(x - 8)(x - 8)$

B  $(x + 8)(x + 8)$

C  $(x - 8)(x + 8)$

D  $(x - 2)(x - 8)$

10) The  $y$  - *intercepts* of the equation  $x + y = 4$  is:

A  $(2, 0)$

B  $(0, 2)$

C  $(4, 0)$

D  $(0, 4)$

11) The excluded values of  $\frac{1-x^2}{x-1}$  are:

A  $(x = 1)$

B  $(x = -1)$

C  $(x = 0)$

D  $(x = 1 \text{ and } x = -1)$

12) The result of  $|-4| + 2$  is:

A  $(-4)$

B  $(6)$

C  $(4)$

D  $(-6)$

Question	1	2	3	4	5	6	7	8	9	10	11	12
Answer	e	B	C	B	C	D	A	B	A	D	A	B

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**Question 2: (3 marks)**

Perform and simplify the following :

1)  $\frac{x^2-49}{x+7}$  such that  $x \neq -7$

$$\frac{(x-7)(x+7)}{(x+7)} = x-7$$

2)  $(x+2)(x-3)$

$$\begin{aligned} &= x^2 + 2x - 3x - 6 \\ &= x^2 - x - 6 \end{aligned}$$

3)  $(5x^2 + 2x + 1) - (2x^2 + 3x + 7)$

$$\begin{aligned} &= 5x^2 + 2x + 1 - 2x^2 - 3x - 7 \\ &= 3x^2 - x - 6 \end{aligned}$$

**Question 3: (2 marks)**

Solve  $x^2 - 2x - 24 = 0$

$$(x-6)(x+4) = 0$$

$$x-6 = 0 \longrightarrow \boxed{x=6}$$

$$x+4 = 0 \longrightarrow \boxed{x=-4}$$

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**Question 4: (1 mark)**

Find the GCF and the LCM of :

$4x^3, 2x^7$

GCF =  $2x^3$  .....

LCM =  $4x^7$  .....

**Question 5: (2 marks)**

Graph  $y = x - 4$

x	Y
1	-3
0	-4
4	0

