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| **QUANTITATIVE SCIENCES DEPARTMENT** | |  |
| **Course:**  **A2MAA** | |
| **Topic Title**: **Skills Test 4** | |
| Student Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_2015 | | |

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

\_\_\_\_ 1 Which of the following is NOT a linear graph?

|  |  |  |  |
| --- | --- | --- | --- |
| A |  | D |  |
| B |  | E |  |
| C |  |

\_\_\_\_ 2 What numbers would complete the bottom row of this table for the relationship *y* = 5*x* – 5?

|  |  |  |  |
| --- | --- | --- | --- |
| *x* | 2 | 4 | 8 |
| *y* |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| A | 6, 16, 34 | D | 7, 17, 36 |
| B | 6, 16, 36 | E | 6, 16, 37 |
| C | 5, 15, 35 |

\_\_\_\_ 3 Complete the table below for values of *x* between –4 and 2 to help you graph *y* = –2*x* – 2.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *x* |  |  |  |  |  |  |  |
| *y* |  |  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| A |  | D |  |
| B |  | E |  |
| C |  |

\_\_\_\_ 4 What can be said about the gradient of the line below?



|  |  |  |  |
| --- | --- | --- | --- |
| A | It is zero. | D | It is positive. |
| B | It is negative. | E | It equals –1 |
| C | It is undefined. |

\_\_\_\_ 5 Find the gradient of the line below.



|  |  |  |  |
| --- | --- | --- | --- |
| A | 3 | D | –3 |
| B |  | E |  |
| C | –4 |

\_\_\_\_ 6 What is the gradient of the line *y* = –3*x* + 3*.*

|  |  |  |  |
| --- | --- | --- | --- |
| A | 4 | D |  |
| B | –3 | E | 6 |
| C | 3 |

\_\_\_\_ 7 What is the gradient of the line *y* = 2*x* + 5*.*

|  |  |  |  |
| --- | --- | --- | --- |
| A |  | D | 2 |
| B | 5 | E | 7 |
| C | 9 |
|  |  |

\_\_\_\_ 8 Find the gradient and *y*-intercept of the line below and hence find its equation.



|  |  |  |  |
| --- | --- | --- | --- |
| A | *y* = 4 + 2*x* | D | *y* = 4 – 2*x* |
| B | *y* = –2 + 4*x* | E | *y* = 4 – *x* |
| C | *y* = 4 + *x* |

\_\_\_\_ 9 Sketch the graph of *y* = –2*x* + 2 using the gradient and y-intercept method.

|  |  |  |  |
| --- | --- | --- | --- |
| A | B |  |  |
| C |  | D | E |
|  |  |

\_\_\_\_ 10 the graph of the equation *y* = 2 is

|  |  |  |  |
| --- | --- | --- | --- |
| A | a horizontal line through (2, 0) | D | a diagonal line through (0, 0) |
| B | a vertical line through (0, 2) | E | a horizontal line through (0, 2) |
| C | a vertical line through (2, 0) |

\_\_\_\_ 11 What is the equation of the vertical line which goes through (2, 6).

|  |  |  |  |
| --- | --- | --- | --- |
| A | *y* = 6 | D | *y* = 2 |
| B | *x* = 6 | E | *x* + *y* = 8 |
| C | *x* = 2 |

\_\_\_\_ 12 What is the equation of the line below?



|  |  |  |  |
| --- | --- | --- | --- |
| A | *y* = –2*x* | D | *x* = –2 |
| B | *y* = –2 | E | *x* = 2 |
| C | *y* = 2 |

**Skills Test Linear**

**Answer Section**

**MULTIPLE CHOICE**

1 ANS: D

A linear graph must be a straight line.

PTS: 1

2 ANS: C PTS: 1

3 ANS: A PTS: 1

4 ANS: B PTS: 1

5 ANS: A PTS: 1

6 ANS: B

The equation is in gradientintercept form (*y* = *mx* + *c*).

The gradient is the coefficient of *x* (*m*).

PTS: 1

7 ANS: D

The equation is in gradientintercept form (*y* = *mx* + *c*).

The gradient is the coefficient of *x* (*m*).

PTS: 1

8 ANS: D PTS: 1

9 ANS: C PTS: 1

10 ANS: E PTS: 1

11 ANS: C

A horizontal line will intersect with the *y*-axis.

A vertical line will intersect with the *x*-axis.

For one point on this line, the respective *x* and *y* values have been given.

PTS: 1

12 ANS: D PTS: 1