# *Algebra & Linear Equation Test*

Name: Div.: Score:

Write out the following in equation form:

1. Five less than four times a number is fifteen. 4n -5
2. The quotient of four more than a number and three is nine. n+4 ÷ 3 = 9

Evaluate the following expressions using

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### Graphing Linear Equations

1. Fill in the following table of values and graph the line.

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y = 3*x*– *3*

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| *x* | *y* |
| *0* | -3 |
| *1* | 0 |
| *2* | 3 |

1. Fill in the following table of values and graph the line.

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y = 2*x* – *2*

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| *x* | *Y* |
| *0* | -2 |
| *1* | 0 |
| *2* | 2 |

1. Fill in the following table of values and graph the line.

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y = *x + 3*

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| *x* | *y* |
| *0* | 3 |
| *2* | 4 |
| *4* | 5 |

1. Fill in the following table of values and graph the line.

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y = – 2

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| *x* | *y* |
| *-4* | -3 |
| *0* | -2 |
| *4* | -1 |

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| Create an equation to fit the Table of Values: |  |
| |  |  | | --- | --- | | *x* | *y* | | 1  1 | 3  2 | | 2 | 5 | | 3 | 7 |   2÷1 = 2  Equation: \_\_\_\_2*x* +1\_\_\_\_\_\_\_\_\_\_\_ | |  |  | | --- | --- | | *x* | *y* | | 5  1 | 6  3 | | 6 | 9 | | 7 | 12 |   5(3) = 15 - 9 = 6  Equation: ­­­­­­­­­­\_\_\_\_3*x - 9*\_\_\_\_\_\_\_\_\_\_\_\_ |

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| Expand & Simplify: |  |
| 1. 2   2*x* – 8 – 5*x* + 7  -3*x* -1 | 2*x* + 4 + 2*x* -5  4*x* - 1 |
| Solve for *x*. Check your answer using substitution: |  |
| 1. 14 = 3*x* – 6   20= 3x  20÷3 = x | 1. 4*x* – 8 = 10   4x = 18  x = 18 ÷4 |
| 1. – 5 = 4   x÷3 = 9  x = 27 | 1. + 6 = (– 1)     x ÷4 = -7  x = -28 |
| 3x – 6 = - 9  3x = -3  x = -3 ÷3  x = -1 | 1. 2(*x* + 2) = 10   2x + 4 = 10  2x = 6  x = 6 ÷2  x = 3 |

1. If Jennifer doubled the money that she has in her account now and then took out $80, she would have $200 left in her account. How much money does she have in her account now?

2m – 80 = $200 🡪 2m = 280 🡪 m = 140

1. Cost of a concert ticket for a student is $3 less than half of an adult ticket. If a student ticket costs $6, how much does an adult ticket cost?

(a÷2) – 3 = 6 🡪 a÷2 = 9 🡪 a = 18

**BONUS**

Find the Slope & Y-intercept:

1. *x* + 4 *= y* Slope (m): 1 y-intercept (+b): +4
2. y = – 4 Slope (m): 1/3 y-intercept (+b): -4