## **Linear and Nonlinear Expressions Worksheets**

Write each of the following statements as a mathematical expression. State whether or not the expression is linear or nonlinear.

1. Seven subtracted from five times a number, and then the difference added to nine times a number
2. Three times a number subtracted from the product of fifteen and the reciprocal of a number
3. Half of the sum of two and a number multiplied by itself three times
4. A number decreased by three squared
5. The quotient of two and a number, subtracted from seventeen
6. The sum of thirteen and twice a number

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Write each of the following statements as a mathematical expression. State whether or not the expression is linear or nonlinear.

1. Seven subtracted from five times a number, and then the difference added to nine times a number

Let x be a number; then, (5x - 7) + 9x. The expression is a linear expression.

2. Three times a number subtracted from the product of fifteen and the reciprocal of a number

Let x be a number; then,  $15 \cdot \frac{1}{x} - 3x$ . The expression is a nonlinear expression.

3. Half of the sum of two and a number multiplied by itself three times

Let x be a number; then,  $\frac{1}{2}(2+x^3)$ . The expression is a nonlinear expression.

4. A number decreased by three squared

Let x be a number; then,  $x - 3^2$  is a linear expression.

5. The quotient of two and a number, subtracted from seventeen

Let x be a number; then,  $17 - \frac{2}{x}$  is a nonlinear expression.

6. The sum of thirteen and twice a number

Let x be a number; then, 13 + 2x is a linear expression.

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