

# 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. The sum that represents the number of tickets sold if 35 tickets were sold Monday, half of the remaining tickets were sold on Tuesday, and 14 tickets were sold on Wednesday

2. The product of 19 and a number, subtracted from the reciprocal of the number cubed

3. The product of 15 and a number, and then the product multiplied by itself four times

4. A number increased by five and then divided by two

5. Eight times the result of subtracting three from a number

6. The sum of twice a number and four times a number subtracted from the number squared

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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. The sum that represents the number of tickets sold if 35 tickets were sold Monday, half of the remaining tickets were sold on Tuesday, and 14 tickets were sold on Wednesday

Let  $x$  be the remaining number of tickets; then,  $35 + \frac{1}{2}x + 14$  is a linear expression.

2. The product of 19 and a number, subtracted from the reciprocal of the number cubed

Let  $x$  be a number; then,  $\frac{1}{x^3} - 19x$  is a nonlinear expression.

3. The product of 15 and a number, and then the product multiplied by itself four times

Let  $x$  be a number; then,  $(15x)^4$  is a nonlinear expression

4. A number increased by five and then divided by two

Let  $x$  be a number; then,  $\frac{x+5}{2}$  is a linear expression

5. Eight times the result of subtracting three from a number

Let  $x$  be a number; then,  $8(x - 3)$  is a linear expression.

6. The sum of twice a number and four times a number subtracted from the number squared

Let  $x$  be a number; then,  $x^2 - (2x + 4x)$  is a nonlinear expression.