Mid-Unit 1 Skills Practice: Quadratics

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| **Example**  Factor. | 1. Factor. | 1. Factor. |
| 1. Factor. | 1. Factor. |
| **Example**  Factor.  3  *First, split -8x into two numbers that multiply to equal the first (+4) times the last (+3), and also add up to -8x* | 1. Factor. | 1. Factor. |
| 1. Factor. | 1. Factor. |
| **Example**  Fill in the first and second differences, and identify the function as either linear or quadratic.   |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | | -2 | 4.3 | 1st |  | |  | 2nd | | -1 | 11.4 |  | |  | | 0 | 15.5 |  | |  | | 1 | 16.6 |  | |  | | 2 | 14.5 |  | |  |   Function type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. Fill in the first and second differences, and identify the function as either linear or quadratic.  |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | | -2 | 9 | 1st |  | |  | 2nd | | -1 | 8 |  | |  | | 0 | 5 |  | |  | | 1 | 0 |  | |  | | 2 | -7 |  | |  |   Function type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. Fill in the first and second differences, and identify the function as either linear or quadratic.  |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | | -2 | -6 | 1st |  | |  | 2nd | | -1 | -10.4 |  | |  | | 0 | -14.8 |  | |  | | 1 | -19.2 |  | |  | | 2 | -23.6 |  | |  |   Function type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Example**  Fill in the first and second differences, and identify the function as either linear or quadratic.   |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | | -2 | 11.5 | 1st |  | |  | 2nd | | -1 | 9 |  | |  | | 0 | 6.5 |  | |  | | 1 | 4 |  | |  | | 2 | 1.5 |  | |  |   Function type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. Fill in the first and second differences, and identify the function as either linear or quadratic.  |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | | -2 | 2 | 1st |  | |  | 2nd | | -1 | -1 |  | |  | | 0 | 1 |  | |  | | 1 | 8 |  | |  | | 2 | 20 |  | |  |   Function type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. Fill in the first and second differences, and identify the function as either linear or quadratic.  |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | | -2 | -11.3 | 1st |  | |  | 2nd | | -1 | -10.3 |  | |  | | 0 | -1.3 |  | |  | | 1 | 16.3 |  | |  | | 2 | 41.3 |  | |  |   Function type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Example**  The axis of symmetry is  Determine the vertex. | The axis of symmetry is  Determine the vertex. | The axis of symmetry is  Determine the vertex. |
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| **Example**  a.) Write the quadratic in factored form.  b.) Identify whether the parabola opens upward or downward.  c.)Identify the *x*-intercepts. | 1. a.) Write the quadratic in factored form.   b.) Identify whether the parabola opens upward or downward.  c.)Identify the *x*-intercepts. | 1. a.) Write the quadratic in factored form.   b.) Identify whether the parabola opens upward or downward.  c.)Identify the *x*-intercepts. |
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| **Example**   |  |  |  | | --- | --- | --- | |  | | | | Domain: |  | | | Range: |  | | | Zeros: |  | | | Intervals  Increase: | |  | | Decrease: | |  | | *x*-intercept: | |  | | *y*-intercept: | |  | | |  |  |  | | --- | --- | --- | |  | | | | Domain: |  | | | Range: |  | | | Zeros: |  | | | Intervals  Increase: | |  | | Decrease: | |  | | *x*-intercept: | |  | | *y*-intercept: | |  | | |  |  |  | | --- | --- | --- | |  | | | | Domain: |  | | | Range: |  | | | Zeros: |  | | | Intervals  Increase: | |  | | Decrease: | |  | | *x*-intercept: | |  | | *y*-intercept: | |  | |
| **Example**   |  |  |  | | --- | --- | --- | |  | | | | Domain: |  | | | Range: |  | | | Zeros: |  | | | Intervals  Increase: | |  | | Decrease: | |  | | *x*-intercept: | |  | | *y*-intercept: | |  | | |  |  |  | | --- | --- | --- | |  | | | | Domain: |  | | | Range: |  | | | Zeros: |  | | | Intervals  Increase: | |  | | Decrease: | |  | | *x*-intercept: | |  | | *y*-intercept: | |  | | |  |  |  | | --- | --- | --- | |  | | | | Domain: |  | | | Range: |  | | | Zeros: |  | | | Intervals  Increase: | |  | | Decrease: | |  | | *x*-intercept: | |  | | *y*-intercept: | |  | |
| **Example**    a.) Determine and plot the *y*-intercept  b.) Write the function in factored form.  c.) Determine and plot the *x*-intercepts  d.) Determine the axis of symmetry  e.) Determine the vertex  f.) Graph the vertex  g.) Graph the curve. | a.) Determine and plot the *y*-intercept  b.) Write the function in factored form.  c.) Determine and plot the *x*-intercepts  d.) Determine the axis of symmetry  e.) Determine the vertex  f.) Graph the vertex  g.) Graph the curve. | a.) Determine and plot the *y*-intercept  b.) Write the function in factored form.  c.) Determine and plot the *x*-intercepts  d.) Determine the axis of symmetry  e.) Determine the vertex  f.) Graph the vertex  g.) Graph the curve. |
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