**Creating a Quadratic Using Characteristics**

Name_____ Period:_____ Date:_____

**Directions: Use the information given to solve each problem.**

1. **Which function has a maximum at 4 and a line of symmetry at $x = -1$?**

   A. $y = -3x^2 + 6x + 9$
   B. $y = -3x^2 - 6x + 12$
   C. $y = 3x^2 + 6x - 9$
   D. $y = 3x^2 - 6x - 12$

2. **Which function has a minimum at -5 and a line of symmetry at $x = 2$?**

   A. $y = 4x^2 - 16x + 11$
   B. $y = -4x^2 + 16x + 35$
   C. $y = 4x^2 + 16x - 21$
   D. $y = 4x^2 - 16x + 39$

3. **Which function has a maximum at 7 and a line of symmetry at $x = -3$?**

   A. $y = -5x^2 + 30x - 43$
   B. $y = -5x^2 - 30x - 58$
   C. $y = 5x^2 - 30x + 63$
   D. $y = -5x^2 + 30x + 77$

4. **Which function has a minimum at -3 and a line of symmetry at $x = 4$?**

A. $y = 2x^2 - 16x + 35$

B. $y = -2x^2 + 16x - 27$

C. $y = 2x^2 + 16x - 19$

D. $y = 2x^2 - 16x + 51$

5. **Which function has a maximum at 9 and a line of symmetry at $x = 1$?**

A. $y = -6x^2 - 12x + 15$

B. $y = 6x^2 + 12x - 21$

C. $y = -6x^2 + 12x + 27$

D. $y = -6x^2 - 12x + 33$

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## Answer Key

**Directions: Use the information given to solve each problem.**

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   A

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C