

Info Gap: Features of Functions

**Problem Card 1**

1. Write an expression in vertex form that could define a quadratic function,  $f$ .
2. Write an expression in factored form that could define a quadratic function,  $g$ .
3. Show that  $f$  and  $g$  do not define the same function.

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**Data Card 1**

- The vertex of the graph of function  $f$  is  $(6, -9)$ .
- The  $x$ -intercepts of the graph of function  $g$  are  $(-7, 0)$  and  $(-5, 0)$ .

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**Problem Card 2**

Functions  $a$  and  $b$  are quadratic functions.

1. What are the zeros of function  $a$ ?
2. What is the vertex of the graph representing function  $b$ ?
3. Show that  $a$  and  $b$  do not define the same function.

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**Data Card 2**

- Function  $a$  is defined by  $(x - 5)^2 - 4$ .
- Function  $b$  is defined by  $(x + 1)(x - 5)$ .