ALGEBRA 2 · CLASSWORK · SPECIAL ED

Determine Positive or Negative Intervals

SCORE / 25

01 Part A · Practice

A quadratic function can change sign only at its zeros: if it opens up it is negative between the zeros and positive outside them (the reverse if it opens down).

EXAMPLE

Where is $f(x) = (x + 2)(x - 4)$ negative?

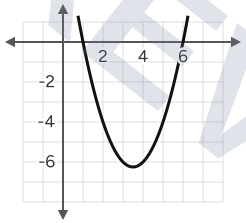
1. Zeros -2 and 4.
2. Opens up, so the graph is below the x-axis between the zeros.
3. Negative for $-2 < x < 4$.

WORDS TO KNOW

positive interval	x-values where the graph is above the x-axis
negative interval	x-values where the graph is below the x-axis
test value	a number used to check the sign on an interval

1 ●○○ Where is the function positive?

HINT Positive means above the x-axis; negative means below.



2 ●○○ For what values of x is $f(x) = -(x + 5)(x - 3)$ positive?

HINT Find the zeros. Sketch: does the parabola open up or down? Where is it above or below the x-axis?

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Preview - the full worksheet and its answer key are at primeworksheet.com