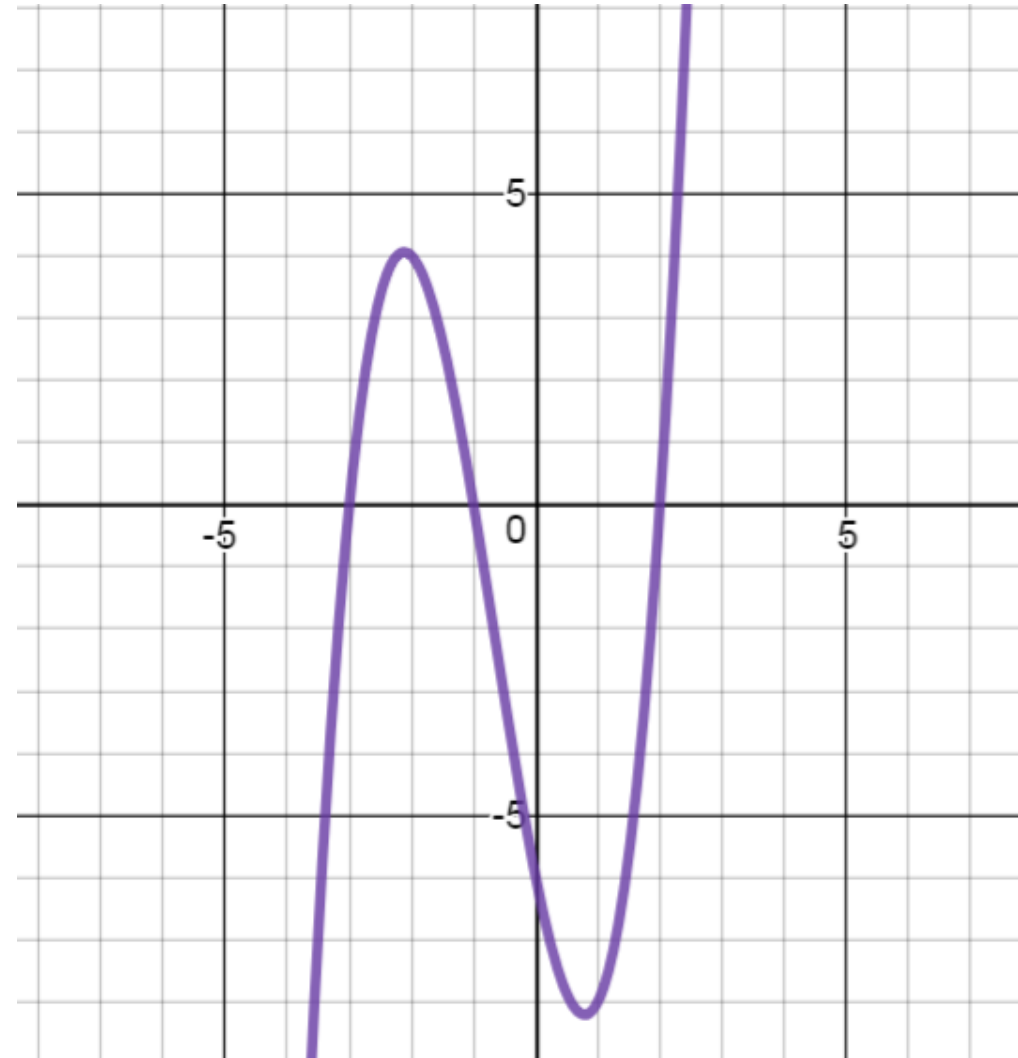


Given the graph, solve the polynomial inequality.

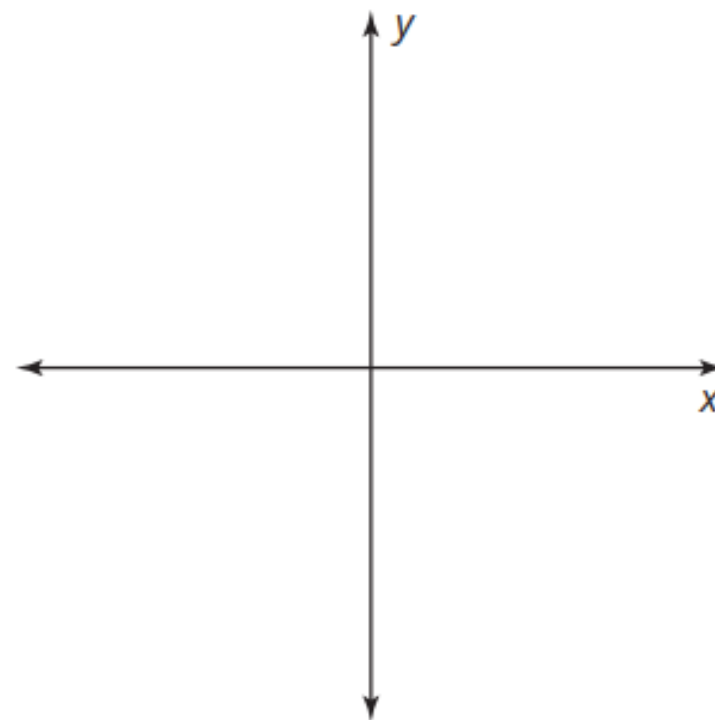
$$x^3 + 2x^2 - 5x - 6 \geq 0$$



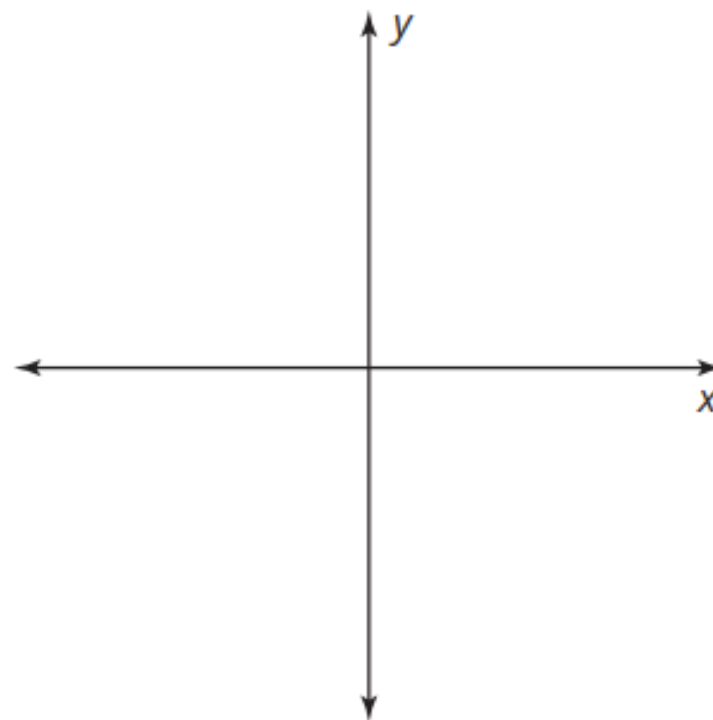
3. Solve each inequality and sketch a graph of the solution.

M2-58

a. $2x^3 - 8x^2 - 8x + 32 > 0$

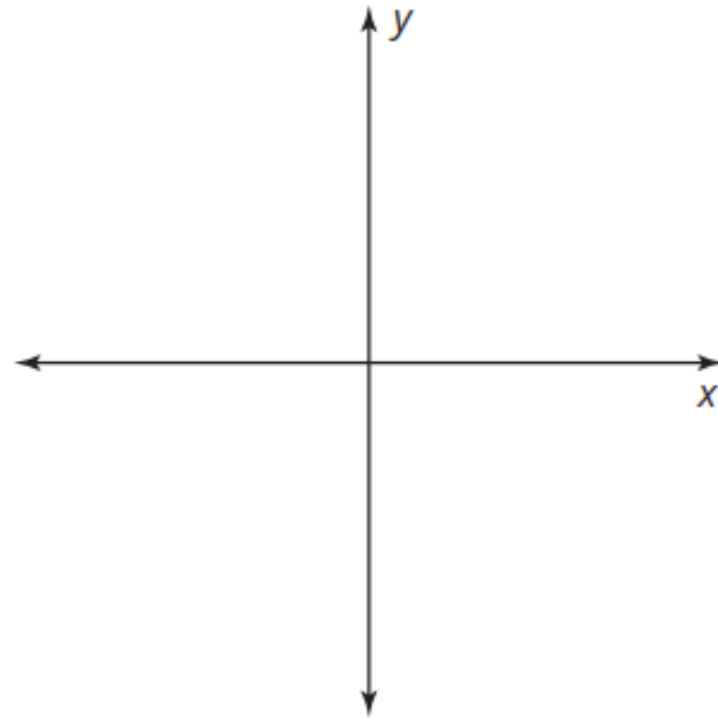


b. $6x^3 - 21x^2 - 12x > 0$



c. $x^4 - 13x^2 + 36 \leq 0$

M2-59



3. The average blood sugar (also known as glucose) level in a person's blood should be between 70 and 100 mg/dL (milligrams per deciliter) one hour after eating. A person with Type 2 diabetes strives to keep glucose levels under 120 mg/dL with diet and exercise in order to avoid insulin injections. The glucose level of an individual over the span of 72 hours can be represented with the polynomial function

$$b(t) = 0.000139x^4 - 0.0188x^3 + 0.8379x^2 - 13.55x + 176.51$$

where glucose level is a function of the number of hours.

- For what hours was the glucose level greater than 120 mg/dL?
- For what hours was the glucose level less than 120 mg/dL?

