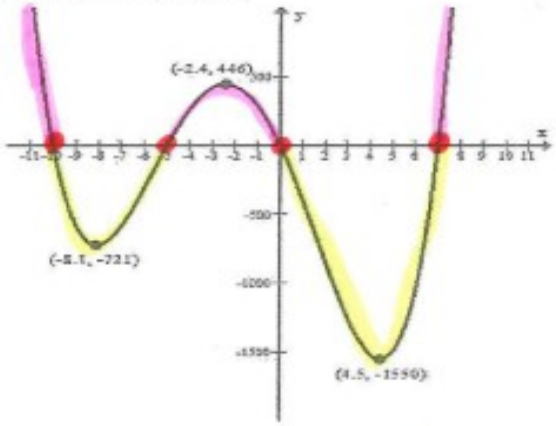
Solving Polynomial and Rational Inequalities Graphically

1. Solve the inequality using the graph.



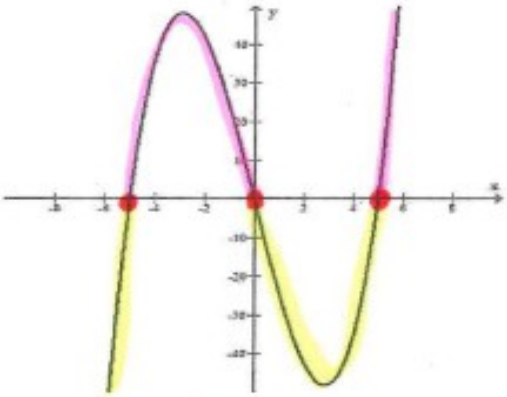
a. $f(x)>0$ $(-\infty,-10)\cup(-5,0)\cup(7,\infty)$

b. $f(x)\geq 0$ $(-\infty,-10]\cup[-5,0]\cup[7,\infty)$

c. $f(x)<0$ $(-10,-5)\cup(0,7)$

d. $f(x)\leq 0$ $[-10,-5]\cup[0,7]$

2. Solve the inequality using the graph.



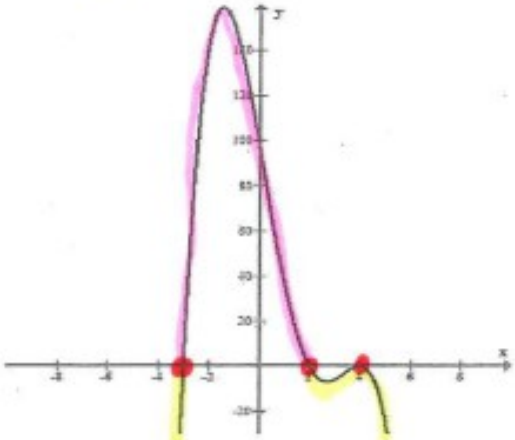
a. $f(x)>0$ $(-5,0)\cup(5,\infty)$

b. $f(x)\geq 0$ $[-5,0]\cup[5,\infty)$

c. $f(x)<0$ $(-\infty,-5)\cup(0,5)$

d. $f(x)\leq 0$ $(-\infty,-5]\cup[0,5]$

3. Solve the inequality using the graph.



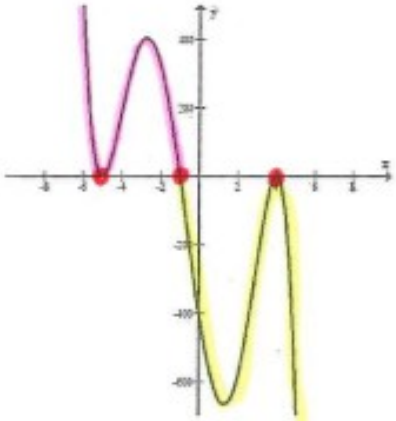
a. $f(x)>0$ $(-3,2)$

b. $f(x)\geq 0$ $[-3,2]\cup\{4\}$

c. $f(x)<0$ $(-\infty,-3)\cup(2,4)\cup(4,\infty)$

d. $f(x)\leq 0$ $(-\infty,-3]\cup[2,\infty)$

4. Solve the inequality using the graph.



a. $f(x)>0$ $(-\infty,-5)\cup(-5,-1)$

b. $f(x)\geq 0$ $(-\infty,-1]\cup\{4\}$

c. $f(x)<0$ $(-1,4)\cup(4,\infty)$

d. $f(x)\leq 0$ $[-1,\infty)\cup\{-5\}$

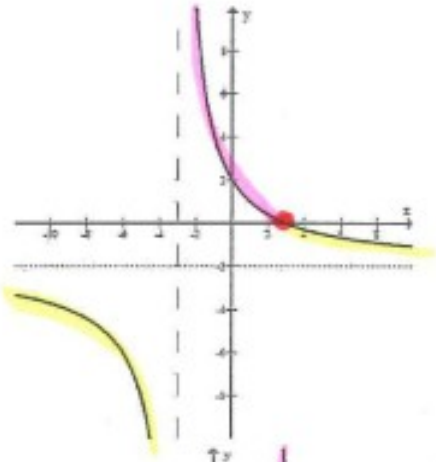
5. Solve the inequality using the graph.

a. $f(x)>0$ $(-3,3)$

b. $f(x)\geq 0$ $(-3,3]$

c. $f(x)<0$ $(-\infty,-3)\cup(3,\infty)$

d. $f(x)\leq 0$ $(-\infty,-3)\cup[3,\infty)$



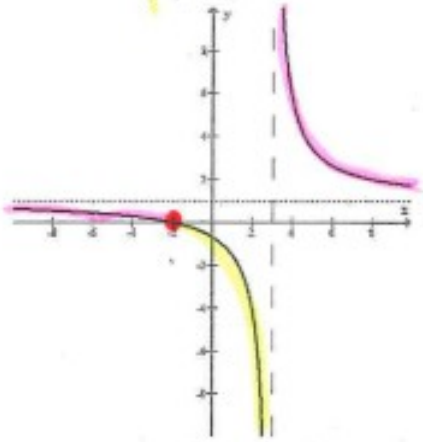
6. Solve the inequality using the graph.

a. $f(x)>0$ $(-\infty,-2)\cup(3,\infty)$

b. $f(x)\geq 0$ $(-\infty,-2]\cup(3,\infty)$

c. $f(x)<0$ $(-2,3)$

d. $f(x)\leq 0$ $[-2,3)$



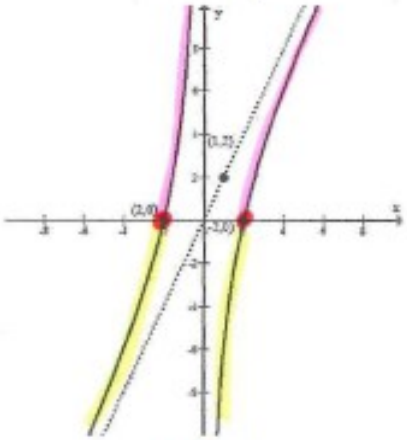
7. Solve the inequality using the graph.

a. $f(x)>0$ $(-2,0)\cup(2,\infty)$

b. $f(x)\geq 0$ $[-2,0)\cup[2,\infty)$

c. $f(x)<0$ $(-\infty,-2)\cup(0,-2)$

d. $f(x)\leq 0$ $(-\infty,-2]\cup(0,-2]$



8. Solve the inequality using the graph.

a. $f(x)>0$ $(-\infty,-3)\cup(-2,1)\cup(3,\infty)$

b. $f(x)\geq 0$ $(-\infty,-3]\cup(-2,1)\cup[3,\infty)$

c. $f(x)<0$ $(-3,-2)\cup(1,3)$

d. $f(x)\leq 0$ $[-3,2)\cup(1,3]$