

1.13 Solving Polynomial Inequalities

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text 4.3 p225 # 1, 2, 4-8, 10, 12, 13, 14, 18

1. Solve each of the following using a number line strategy. Express your answers using set notation.

a)  $(x + 2)(x - 3)(x + 1) \geq 0$

	$(-\infty, -2]$	$[-2, -1]$	$[-1, 3]$	$[3, \infty)$
$x + 2$	-	+	+	+
$x + 1$	-	-	+	+
$x - 3$	-	-	-	+
$f(x)$	-	+	-	+

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

b)  $-2(x - 2)(x - 4)(x + 3) < 0$

c)  $(x - 3)(5x + 2)(4x - 3) < 0$

d)  $(x - 5)(4x + 1)(2x - 5) \geq 0$