

## Solving Quadratic Inequalities

**Solve each inequality.**

1)  $9(b + 6) < 3b - (1 - b)$

2)  $-(1 - 10r) < 9 + 6(2r - 6)$

3)  $-2r + 2 + 8r + 5 \leq -3(1 + 5r) + 4(12r - 11)$

4)  $-4(a + 4) + 10 > -9a + 2(a - 3)$

5)  $-m - 4m \leq -5(4 - 11m) - 5(12 - 4m)$

6)  $(x - 5)(3x - 2) > 0$

7)  $x(5x - 1) \leq 0$

8)  $(x + 2)(x - 2) > 0$

9)  $(4b - 3)(b + 3) < 0$

10)  $(n - 1)(n + 3) < 0$

11)  $2p^2 + 8p > 64$

12)  $v^2 < 11v - 30$

13)  $k^2 - 7k > -6$

14)  $v^2 - v < 42$

15)  $r^2 < r + 6$

16)  $5n^2 + 8 > -41n$

17)  $9x^2 + 21x - 41 > -x^2 + 8$

18)  $7k^2 - 17k - 2 < 4k^2 + 4$

19)  $24b^2 + 205b + 224 > 5b$

20)  $14n^2 - 45n < 14$

## Solutions to Solving Quadratic Inequalities

1.  $]-\infty, -11]$

2.  $]13, +\infty[$

3.  $[2, +\infty[$

4.  $]0, +\infty$

5.  $[1, +\infty[$

6.  $]-\infty, \frac{2}{3}[ \cup ]5, +\infty[$

7.  $[0, \frac{1}{5}]$

8.  $]-\infty, -2[ \cup ]2, +\infty[$

9.  $]-3, \frac{3}{4}[$

10.  $]-3, 1[$

11.  $]-\infty, -8[ \cup ]4, +\infty[$

12.  $]5, 6[$

13.  $]-\infty, 1[ \cup ]6, +\infty[$

14.  $]-6, 7[$

15.  $]-2, 3[$

16.  $]-\infty, -8[ \cup ]-\frac{1}{5}, +\infty[$

17.  $]-\frac{7}{2}, \frac{7}{5}[$

18.  $]-\frac{1}{3}, 6[$

19.  $]-\infty, -7[ \cup ]-\frac{4}{3}, +\infty[$

20.  $]-\frac{2}{7}, \frac{7}{2}[$