**Solve each equation by factoring.**

81) $(3x+1)(x+4)=0$

82) $(r-1)(r+1)=0$

83) $v^2-8v+7=0$

84) $3x^2+12x+9=0$

85) $x^2+7x=8$

86) $n^2=-9-6n$

**Solve each equation with the quadratic formula.**

87) $n^2-2n-3=0$

88) $x^2-3x-18=0$

89) $4r^2=24-10r$

90) $4m^2=2-4m$

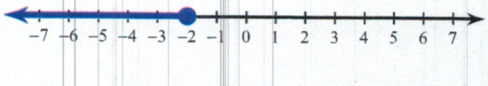
91) $-2n^2+2n+53=-7$

92) $-10x^2-12x+45=-9x^2+1-5x$

**Write an inequality for each graph.**

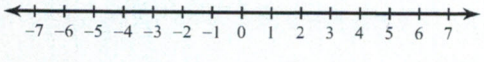
93)


94)




**Draw a graph for each inequality.**

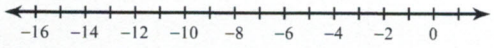
95) $-p \geq 5$



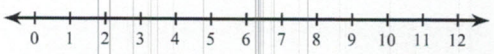

96) $-5 < -n$

**Solve each compound inequality and graph its solution.**

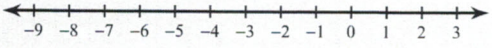
97) $2a - 12 > -20$ or $5 - 2a \geq 29$



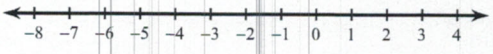

98) $11 \leq 4 + 7n \leq 67$



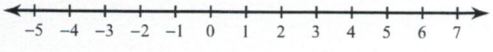

99) $5x \geq -10$ or $3x \leq -18$



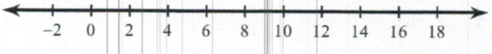

100) $-1 < 3 + r \leq 4$




101) $-14 - 15v \leq 18 - 19v < -19v - 1$

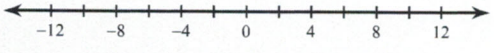



102) $-17x - 3 \leq 13 - x$ and $8 - 2x > -8 - x$



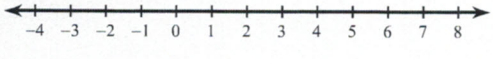

**Solve each inequality and graph its solution.**

103) $\left|\frac{n}{3}\right| > 3$



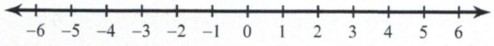

104) $|3x| \geq 15$


105) $|4k - 5| < 5$

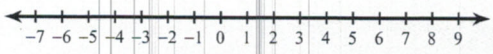



106) $|9 - 6p| < 57$

107) $3\left|3n-6\right| > -9$




108) $\left|6-6x\right| + 3 \le 39$




**Simplify.**

109) $\sqrt{8}$

110) $\sqrt{27}$

111) $3\sqrt{486v^3}$

112) $-5\sqrt{256x}$

113) $-5\sqrt{2} + 5\sqrt{2}$

114) $-2\sqrt{5} + 5\sqrt{5}$

115) $-2\sqrt{3} - 2\sqrt{12} - \sqrt{54}$

116) $-3\sqrt{12} - 3\sqrt{45} - 2\sqrt{5}$

117) $4\sqrt{112} - 2\sqrt{128} - 2\sqrt{7} - 2\sqrt{32}$

118) $2\sqrt{80} + 2\sqrt{8} - \sqrt{20} + 4\sqrt{5}$

119) $\sqrt{2} \cdot \sqrt{4}$

120) $\sqrt{4} \cdot \sqrt{2}$

121) $-2\sqrt{15}\left(5 + \sqrt{10}\right)$

122) $5\sqrt{15}\left(\sqrt{10} + \sqrt{3}\right)$