

Algebra 2
Absolute Value Inequalities

Name: _____
Period: _____

Solve each inequality. Write your solution in interval notation, then graph it on a number line.

1. $|x+2| > 9$ 2. $|x+5| \leq 3$ 3. $|6-x| \leq 15$ 4. $|3x+1| \geq 8$ 5. $|7x|-12 \leq 9$

6. $3|2x-6| < 9$ 7. $\frac{|5x+3|}{2} > 4$ 8. $2|3x-6|+6 \geq 24$

Solve for x .

9. $\sqrt{x-4} = 3$ 10. $\left|\frac{x}{7}\right| = 3$ 11. $(14-x)^2 = 25$ 12. $10 = \sqrt{\frac{m}{10}}$

13. $-10|x+2| = -70$ 14. $-8 + \sqrt{5a-5} = -3$ 15. $1 - \frac{|-9+x|}{8} = -3$ 16. $7 + 3(x-4)^2 = 34$

Challenge!! 17. $5 < |x+1| < 7$

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