

Algebra 1B FID Days

2024-2025 year will be on 8th snow day

Mostly in January after midterms so Chapter 4&5 graphing will have been completed
Use Algebra Keystone Practices related to graphing and application problems

Setup Day -

All students should

- TAKE/have their hard textbook home for backup as well as chromebook and graphing calculator as some STATS-EDIT/CALC - LinReg may be helpful.
- Complete the Google Form indicating available resources and needs for a FID day
- Receive a copy of this slideshow pdf for reference

DAY of a Flexible Instructional Day (FID) students will

- Check in with
 - Google Classroom Meet (GC) & answer the Question of the Day
 - or Email
 - or Call Mrs. Pletcher - ext 2112 to leave a message indicating status
- Complete Assignment posted in some fashion

Review the location online www.bigideasmath.com of videos

This is screenshot of teacher's view but very similar to students once they access the dynamic classroom on their dashboard on the right hand side.

The screenshot displays the Big Ideas Math website interface. On the left is a navigation sidebar with a 'TABLE OF CONTENTS' section. The main content area is titled '2.6 Solving Absolute Value Inequalities' and features 'EXAMPLE 1 Solving Absolute Value Inequalities'. The example includes two problems: a. $|x + 7| \leq 2$ and b. $|8x - 11| < 0$. A 'SOLUTION' section follows, showing the steps to solve problem a: $x + 7 \geq -2$ and $x + 7 \leq 2$ (writing a compound inequality), then $x \geq -9$ and $x \leq -5$ (using the subtraction property of inequality), and finally $-9 \leq x \leq -5$ (simplifying). A number line graph shows the solution set from -9 to -5. The sidebar lists various resources like 'Key Idea: Solving Absolute Value Inequalities', 'Self-Assessment 1 - 4', and 'Example 2: Solving Absolute Value Inequalities'. The top right of the page has navigation icons for 'Self-Assessment', 'Learning Target', 'Math Tools', and 'My Notes'.

2.6 Solving Absolute Value Inequalities

Self-Assessment Learning Target Math Tools My Notes

← TABLE OF CONTENTS

Search table of contents

Explore It!

Solving Absolute Value Inequalities

Key Idea: Solving Absolute Value Inequalities

Example 1: Solving Absolute Value Inequalities

Self-Assessment 1 - 4

Example 2: Solving Absolute Value Inequalities

Self-Assessment 5 - 9

Solving Real-Life Problems

EXAMPLE 1 Solving Absolute Value Inequalities

Example Stepped Out Video See another example

Solve each inequality. Graph each solution, if possible.

a. $|x + 7| \leq 2$ b. $|8x - 11| < 0$

SOLUTION

a. Use $|x + 7| \leq 2$ to write a compound inequality. Then solve.

$x + 7 \geq -2$ and $x + 7 \leq 2$ Write a compound inequality.

$\frac{-7}{-7} \frac{-7}{-7}$ and $\frac{-7}{-7} \frac{-7}{-7}$ Subtraction Property of Inequality

$x \geq -9$ and $x \leq -5$ Simplify.

▶ The solution is $-9 \leq x \leq -5$.

Activate Windows Go to Settings to activate windows

Day 1: Our Algebra bigideasmath.com section 2.6

Objective: Review Solving compound inequalities, including Absolute Value.



Key Idea

Solving Absolute Value Inequalities

Let c be a positive real number.

To solve $|ax + b| < c$, solve the compound inequality

$$ax + b > -c \quad \text{and} \quad ax + b < c.$$

To solve $|ax + b| > c$, solve the compound inequality

$$ax + b < -c \quad \text{or} \quad ax + b > c.$$

In the inequalities above, you can replace $<$ with \leq and $>$ with \geq .

- 1) View the VIDEO for example 1 & 2
- 2) Complete the 2 self-assessment problems with work shown on PAPER to link to GC assignment for the day OR hand in upon return.

Backup: PG 95-97 in HARD textbook

2.6 Section table of contents has these tabs

Example 1: Solving Absolute Value Inequalities

Self-Assessment 1 - 4

Example 2: Solving Absolute Value Inequalities

Self-Assessment 5 - 9

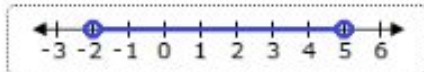
- Have a PAPER to show notes you took from the videos and did on the problems in self-assessment. This does not need to be every line but should give the impression you did take notes on the examples.
- The videos are 2 and 4 minutes = 6 minutes of viewing but may take more time to pause and do notetaking.
- Then 9 problems to complete will be most likely at least 9 minutes.
- Therefore assignment is about 20 minutes.

Samples from studyisland Keystone content & Exit Ticket

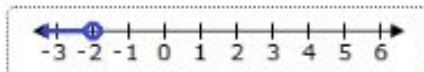
Directions: Drag the tiles to the boxes to form correct pairs.

Solve the following compound inequalities. Then, match each compound inequality with the graph of its solutions on the number line.

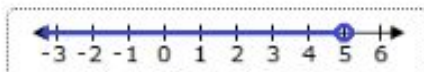
$$8x - 3 < 13 \text{ or } -3x + 11 > -4$$



$$2x + 3 < -7 \text{ or } -3x - 1 > 5$$



$$-42 < 3x - 36 < -21$$



<input type="text"/>	↔	<input type="text"/>
<input type="text"/>	↔	<input type="text"/>
<input type="text"/>	↔	<input type="text"/>

Solve the following inequality.

$$-4|3 - x| + 4 \leq -16$$

- A. $x \geq 8$ or $x \leq -2$
- B. $x \leq 8$ or $x \geq -2$
- C. $x \geq 6$ or $x \leq 0$
- D. $x \leq 6$ or $x \geq 0$

Day 2: FID

#1-5, 11-13, 17,18, 21,22

All need WORK paper in some fashion

Online - use your checks, guided solution helps, etc.

- Dynamic Classroom Book
- Under section 2.6 Tabs
- **Practice** option
- Work shown on paper for #s

Hard text book - show your work and the back of the book has answers on some problems.

- Pg 99 # in title
- Show on paper

The screenshot shows a software interface for solving absolute value inequalities. The title is "2.6 Solving Absolute Value Inequalities". On the left is a "TABLE OF CONTENTS" sidebar with options like "Example 3: Modeling Real Life", "Self-Assessment 10 - 11", "Practice", "Practice 1 - 35", "Review & Refresh 36 - 57", "Wrap-Up", "Chapter Review", and "Mathematical Practices". The main area is titled "Sec. 2.6 > 2.6 Practice: Exercises 1 - 35 #1" and includes a "Check" button and a "Guided Solution" button. Below this, there is a "Listen" button and the instruction "Solve $|x| < 3$ ". A list of multiple-choice options is provided: "no solution", "all real numbers", " $x < -3$ or $x > 0$ ", " $x < 0$ or $x > 3$ ", " $x < -3$ or $x > 3$ ", " $-3 < x < 0$ ", " $0 < x < 3$ ", and " $-3 < x < 3$ ". At the bottom, there are navigation buttons for "1", "2", and "3".

2.6 Practice WITH CalcChat®

In Exercises 1–16, solve the inequality. Graph the solution, if possible. ▶ Examples 1 and 2

1. $|x| < 3$

2. $|y| \geq 4.5$

3. $|d + 9| > 3$

4. $|h - 5| \leq 10$

5. $|2s - 7| \geq -1$

6. $|4c + 5| > 7$

7. $|5p + 2| < -4$

8. $|9 - 4n| < 5$

9. $|6t - 7| - 8 \geq 3$

10. $|3j - 1| + 6 < 0$

11. $3|14 - m| > 18$

12. $-4|6b - 8| \leq 12$

13. $2|3w + 8| - 12.5 \leq -4.5$

Day 3: FID

All need WORK paper

Online

- Dynamic Classroom Book
- Under section 2.6 Tabs
- Review & Refresh option
- Work shown on paper for # 42-44, 51-55

Hard text book

- Pg 100 # 36-57
- Show on paper

REVIEW & REFRESH



In Exercises 36–39, plot the ordered pair in a coordinate plane. Describe the location of the point.

36. $A(1, 3)$

37. $B(0, -3)$

38. $C(-4, -2)$

39. $D(-1, 2)$

40. **MP REASONING** Can you determine the solution of $|4x - 2| \geq -6$ without solving? Explain.

41. Complete the table.

x	0	1	2	3	4
$5x + 1$					

In Exercises 42–44, solve the equation.

42. $3(5m - 1) - 7m = -9$

43. $|2x + 7| - 8 = -5$

44. $-\frac{1}{2}(4h - 3) = \frac{1}{4}(6 - 8h)$

45. Write an inequality that represents the graph.



MP REASONING In Exercises 46 and 47, let $c > 0$. Solve the inequality for x .

46. $\frac{x}{c} > -7$

47. $-cx \geq 10.5$

In Exercises 48 and 49, find the cube root.

48. $\sqrt[3]{-216}$

49. $\sqrt[3]{\frac{8}{125}}$

50. **MODELING REAL LIFE** You bike at a speed of 12 miles per hour. Your friend bikes at a speed of 270 meters per minute. Who bikes faster?

In Exercises 51–55, solve the inequality. Graph the solution.

51. $\frac{t}{-5} - 2 \geq 1.7$

52. $15x + 3 < 6(4x + 5)$

53. $-3 < 4y + 5 \leq 9$

54. $6|3x + 2| > 60$

55. $b + \frac{1}{3} \leq \frac{5}{3}$ or $1 - 3b \leq -5$

In Exercises 56 and 57, evaluate the expression.

56. $(-3)^4$

57. -10^2



Day 4: FID

Review after section 5.7

All need WORK paper

Online Dynamic Classroom Book-----Under section 5.7 Tabs

- Review & Refresh option as this has good problems to practice for online Keystone test
- Work shown on paper for # but rest can be placed into the online boxes as record

Hard text book option: Pg 288 # 46-60 Show on paper

5.7 Systems of Linear Inequalities

TABLE OF CONTENTS

- Solving Real-Life Problems
- Practice
- Practice 1 - 45
- Review & Refresh 46 - 60
- Wrap-Up
- Closure
- Mini-Assessment
- Chapter Review
- Mathematical Practices

Write the compound inequality that represents this range.

$-2500 \leq e \leq -100$ $-2000 \leq e \leq -200$
 $e \leq -2500$ or $e \geq -100$ $e \leq -2000$ or $e \geq -200$

Graph the inequality

REVIEW & REFRESH

46. Graph $-\frac{3}{4}x - y < 6$ in a coordinate plane.

In Exercises 47 and 48, write the product as a power.

47. $(-13) \cdot (-13) \cdot (-13)$

48. $x \cdot x \cdot x \cdot x \cdot x \cdot x$

49. Write a system of linear inequalities represented by the graph.

50. Write an equation of the line with a slope of $-\frac{1}{4}$ and a y-intercept of -1 .

In Exercises 51 and 52, solve the equation.

51. $\frac{2}{3}(x - 6) = 4$ 52. $6x - 7 = -2x - 9$

In Exercises 53 and 54, solve the system using any method. Explain your choice of method.

53. $5x + 10y = 8$ 54. $-11x + 2y = 12$
 $3x + 6y = 4$ $y = 4x + 3$

55. **MODELING REAL LIFE** Slitsnails are large mollusks that live in deep waters. They have been found in the range of elevations shown. Write and graph a compound inequality that represents this range.

56. Solve $x + 5 = -2x - 4$ by graphing. Check your solution.

57. **OPEN-ENDED** Write an absolute value equation that has exactly one solution.

58. Use intercepts to graph the equation $-3x + 6y = 24$. Label the points corresponding to the intercepts.

59. Make a scatter plot of the data. Then describe the relationship between the data.

x	4	8	1	9	3	6	2	5
y	-2	0	-5	-1	-5	-2	-7	-4

60. Graph $g(x) = |x - 3| + 1$. Compare the graph to the graph of $f(x) = |x - 3|$.

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Day 5: FID

Review after section 6.2 on exponents

All need WORK paper

Online Dynamic Classroom Book-----Under section 6.2 Tabs

- Review & Refresh option as this has good problems to practice for online Keystone test
- Work shown on paper for # 56,57 but rest can be placed into the online boxes as record

Hard text book option: Pg 312 # 54-65 Show on paper

6.2 Radicals and Rational Exponents

TABLE OF CONTENTS

- Solving Real-Life Problems
- Practice
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 - Review & Refresh 54- 65**
 - Wrap-Up
 - Mini-Assessment
- 3.3 Exponential Functions
- 3.4 Exponential Growth and Decay
- 3.5 Solving Exponential Equations
- 3.6 Geometric Sequences

Graph the equations $x = 5$, $x = 2$, $y = -2$, and $y = 1$.

Find the area of the enclosed shape formed by the lines.

The area is square units.

REVIEW & REFRESH

54. Evaluate the function $w(x) = -5x - 1$ when $x = -3, 0$, and $\frac{4}{5}$.

55. Graph the system $y \geq -\frac{1}{2}x - 3$ and $-x + y < 1$.

In Exercises 56 and 57, solve the system. Explain your choice of method.

56. $y = \frac{1}{3}x - 6$ 57. $2x - 3y = -5$
 $y = -2x + 1$ $5x + 2y = 16$

58. **MODELING REAL LIFE** The table shows the earnings y (in dollars) of a food server who works x hours.

x	0	1	2	3	4	5	6
y	0	18	40	62	77	85	113

a. Write an equation that models the server's earnings as a function of the number of hours the server works.

b. Interpret the slope and y-intercept of the line of fit.

In Exercises 59 and 60, simplify the expression. Write your answer using only positive exponents.

59. $\frac{6^{-2}}{6^4}$ 60. $(3z^4)^3$

61. Graph the equations $x = 5$, $x = 2$, $y = -2$, and $y = 1$. Find the area of the enclosed shape formed by the lines.

62. Write a piecewise function represented by the graph.

In Exercises 63 and 64, evaluate the expression.

63. $\sqrt[3]{-729}$ 64. $256^{\frac{1}{4}}$

65. Tell whether $(-4, 9)$ is a solution of $6x - y \leq 13$.

312 Chapter 6 Exponential Functions and Sequences