

Penrose GED Prep

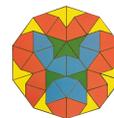
2.2 Absolute Value

This worksheet introduces the concept of Absolute Value. If you aren't sure what "Absolute Value" means, watch the first video on this worksheet, which is a solution to question 3, or watch the Khan Academy playlist listed at the end of this worksheet.

When you get to a starred (*) problem, try watching the video explaining how to solve the problem. Then try to solve the problem on your own.

One of the most useful tools for understanding absolute value is the number line. If you get stuck, try drawing a number line to help.

- 1 What is $|\frac{4}{-2}|$?
- 2 What is $|\frac{|4|}{-2}|$?
- 3 * Calculate $|4 - 36 + 12 - 21 + 10|$
- 4 What is the absolute value of the difference of 24 and the absolute value of -37 ?
- 5 Maddie is thinking of a number. She tells Eli that the number she is thinking of is equal to its absolute value. What does Eli know for certain about Maddie's number?
 - (a) The number is positive
 - (b) The number is negative
 - (c) The number is not positive
 - (d) The number is not negative
- 6 Which of the following is the largest?
 - (a) $|12 + 3|$
 - (b) $|12 - 33|$
 - (c) $|1 - 19|$
 - (d) $|-5 - 8|$
- 7 Which of the following is the largest?
 - (a) $-2|2 + 3|$
 - (b) $2|2 - 3|$
 - (c) $2|1 - 1|$
 - (d) $|-5 + 8|$



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8 * Which of the following has the largest absolute value?

- (a) $-2|2 + 3|$
- (b) $2|2 - 3|$
- (c) $2|1 - 1|$
- (d) $|-5 + 8|$

9 Which of the following has the smallest absolute value?

- (a) $2|2.6 - 3.2|$
- (b) $2|2.6 + 3.2|$
- (c) $-4 + |-3.7 - .13|$
- (d) $4 + |-.7 + .13|$

10 If the average temperature drops by 3 degrees each day over the course of 7 days, what is the absolute value of the change in temperature after 7 days?

- (a) 3
- (b) 21
- (c) 7
- (d) 10

11 Julienne and Matthew each make a batch of cookies. Julienne makes 45 cookies and Matthew makes 48 cookies. What is the absolute value of the difference between the number of cookies Julienne makes and the number of cookies Matthew makes?

- (a) 3
- (b) 93
- (c) 90
- (d) 8

Additional Resources:

1. A detailed solution to problem 3 and an introduction to Absolute Value: <https://www.youtube.com/watch?v=2cX1iHLDISY>
2. Multiplication and Absolute Value (watch before problem 7): <https://www.youtube.com/watch?v=Th5WQ2YQEo>
3. A detailed solution to problem 8: <https://www.youtube.com/watch?v=iICiuZaw10w>
4. Khan Academy Absolute Value Videos: <https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-negative-cc-6th-absolute-value/v/absolute-value-and-number-lines>