



Helping With Math

Finding the Absolute Value of Numbers

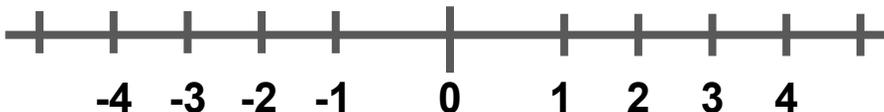
GRADE 6



Absolute value shows how far a number is from zero. It is a number which is non-negative and does not regard to its sign. It is always referred as $|x|$, x being the number.



Hi there! Want to come and see the animals in the Zoo? Study with me first!



To easily find the **absolute value of a number**, you may use a number line. A number line will help you show how far a number is from Zero which should be located in the middle.



ABSOLUTE VALUE SYMBOLS

When you are asking for the absolute value of a number, its symbol should always accompany the number. The symbol, “|” should come at both sides of a number.

The negative sign of its number should also be removed, and all numbers should be treated as positive numbers.

Example:

4 is four times away from 0, and -4 is four times away from 0. Therefore, the absolute value of 4 is 4 and -4 is still 4.



REMEMBER!



When adding, subtracting, multiplying or dividing, it doesn't matter which of the numbers will come first because the answer will still be the same.

The absolute value will only be negative when there is a negative sign before the absolute number symbol.

Example:

Addition

$$|4+4| = 8$$

$$-|4+4| = -8$$

Subtraction

$$|2-5| = 3$$

$$|5-2| = 3$$

$$-|2-5| = -3$$

Multiplication

$$|3 \times 2| = 6$$

$$-|3 \times 2| = -6$$

Division

$$|4 \div 2| = 2$$

$$-|4 \div 2| = -2$$



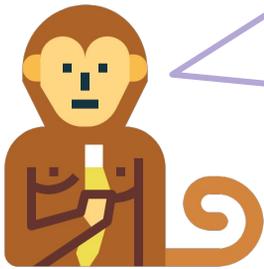
PRACTICE TIME!



I can't find my way home. Please help me find it by answering this equation below.

$$|100-200| = \underline{\hspace{2cm}}$$

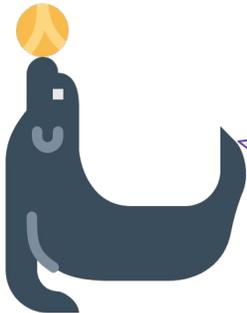
Always  remember that it doesn't matter which of the number will come first!



I am so happy to eat bananas! But I need to solve this first. Can you help me?

$$-|320+150| = \underline{\hspace{2cm}}$$

Keep it mind that the absolute value will be negative because of the negative sign outside!



I love playing with balls! Before I continue, help me with this, please.

$$|20x-5| = \underline{\hspace{2cm}}$$

 Do not forget that the negative sign will be removed!



TABLE OF ACTIVITIES

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ANIMAL GAME

The animals are playing a game. Help them to determine the winner by choosing the correct answer from the choices given below.

1. $-|123 + 50| = ?$

- a. 173
- b. -173



4. $|-120 - 30| = ?$

- a. 150
- b. -150

2. $|35 - 100| = ?$

- a. -65
- b. 65



5. $|25 \times 10| - 5 = ?$

- a. 245
- b. -245

3. $12 + |50 - 200| = ?$

- a. -162
- b. 162



6. $5 \times |35 + 10| = ?$

- a. 225
- b. -225



PAIR US

Pair up the animals for their presentation tonight! Draw a line from Column A to Column B to identify which animals should be in pairs.



COLUMN A

$$|155 + 210|$$



$$|-100|$$



$$-|-23 - 50|$$



$$|13 \times 50|$$



$$|23+50|$$

COLUMN B



$$-73$$



$$365$$



$$73$$



$$650$$

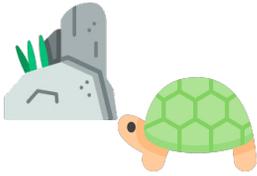


$$100$$



TURTLE STEPS

The turtles have walked too much. Help them identify the number of their steps by solving the equation below.



1.

$$|235 + 85| - 10 =$$

4.

$$|75 + 137| =$$

2.

$$|250 - 150| \times 5 =$$

5.

$$-|65 - 140| =$$

3.

$$-|20 \times 15| + 10 =$$

6.

$$|13 \times 35| =$$



ANIMAL'S WEIGHT

The animals have gained weight. Identify if it was lesser, greater, or equal by writing $<$, $>$, or $=$ respectively.

1.

$|70 + 20| \text{ _____ } |100 - 30|$



$|25 + 80| \text{ _____ } |87 - 19|$

6.

2.

$|-3 \times 30| \text{ _____ } |12 + 30|$



$|-10 \times 5| \text{ _____ } |10 \times 5|$

7.

3.

$|12 \times 5| \text{ _____ } |30 + 30|$



$|-10 / 5| \text{ _____ } |10 \times 5|$

8.

4.

$|25 - 45| \text{ _____ } |25 \times 6|$



$|52 + 45| \text{ _____ } |50 - 100|$

9.

5.

$|70 - 10| \text{ _____ } |30 \times 2|$



$|-37 - 12| \text{ _____ } |-143 \times 5|$

10.



COUNT THE ANIMALS

Help the Zookeeper count the animals. From the equations below, place "+" if positive, and "-" if negative. Show your solutions.

$$-|25 - 100| = ?$$

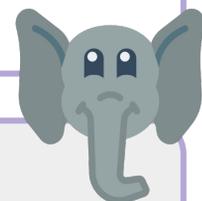


$$|-10 + 5| = ?$$



$$|35 - 125| = ?$$

$$-|100 \times 100| = ?$$



$$-|30 + 140| = ?$$

$$-|47 \times 100| = ?$$



HELP THE MONKEY

The monkey was trying to identify the absolute value of some equations. Can you help him by writing True if he is correct, and if he is wrong, write the correct answer. Show your solutions.

1.

The absolute of value of 35 when subtracted from 70 is 35.

3.

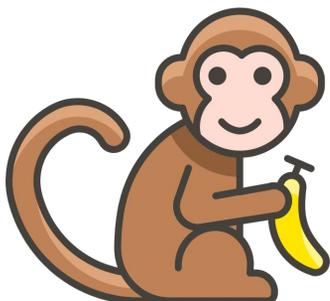
The absolute value of -50 multiplied to -50 is 100.

2.

The absolute value of 300 when added to 150 is 500.

4.

The absolute value of -450 subtracted from -450 is 0.



Am I right?

5.

The absolute value of 12 multiplied by 100 is 120.



THE ABSOLUTE VALUE OF ZOO

Below are situational questions related to the Zoo. Answer the following questions by giving its absolute value.

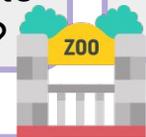
The monkey has 5 dozen of bananas. She ate half of it. Find the absolute value of the bananas left.



Three lions have five cubs each. They gave birth to five more each. Find the absolute value of the total number of the lions' cubs.



In the Zoo, there are twelve tigers, seven pandas, and thirteen giraffes. There were six sea lions transferred from another Zoo. What is the absolute value of the total number of animals in the Zoo?



The Zoo has 100 customers a day. What is the absolute value of the total number of customers in the Zoo for the month of March?



There are 62 children who went to see the panda. Half of them wanted to see the panda again the next day. What is the absolute value of the children who wants to go back to the Zoo?



HUNGRY ANIMALS

The animals are hungry! Feed them quickly by arranging the following from least to greatest and vice versa. Show your solutions.

$$|30 - 50| = \underline{\hspace{2cm}}$$

$$|35 + 15| \times 2 = \underline{\hspace{2cm}}$$

$$-|20 \times 15| = \underline{\hspace{2cm}}$$

$$3 \times |-5 \times 12| = \underline{\hspace{2cm}}$$

$$|100 - 25| = \underline{\hspace{2cm}}$$

$$|137 - 12| = \underline{\hspace{2cm}}$$

LEAST TO GREATEST

GREATEST TO LEAST



THE ZOOKEEPER'S ERRAND

Help the Zookeeper with his tasks for a free ticket to the Zoo!
Provide the him with the equations he is asking for.

Give me 3 equations
with the same absolute
value.

Give me 3 equations
with the absolute value
of 35.

Give me 4 equations
with a negative
absolute value.

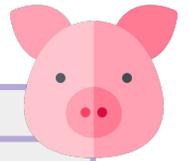
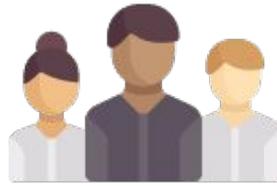
Give me 5 equations with
a positive absolute value.

Give me 5 equations with
an absolute value which
are all divisible by 5.



ZOO ENTRANCE

To enter the Zoo, you have to answer this first. What is the significance of learning how to find the absolute value of the numbers?

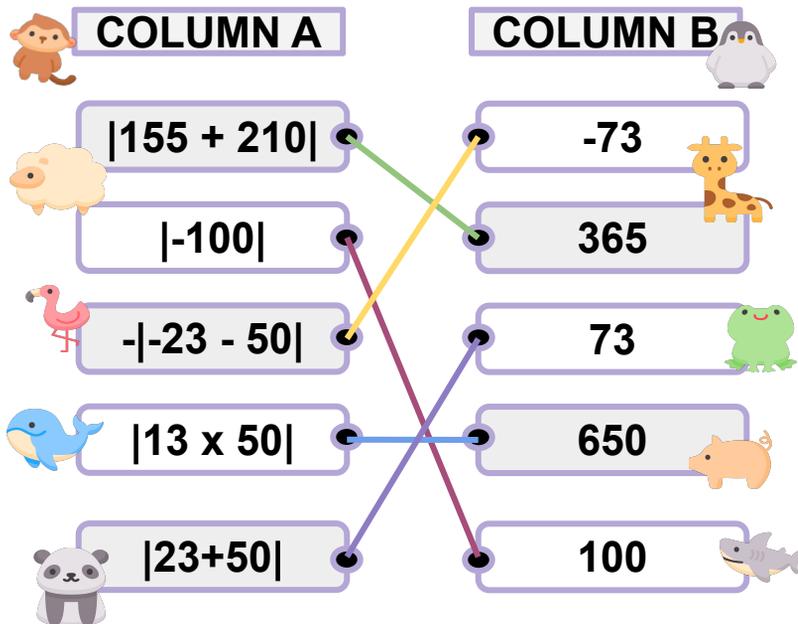


ANSWER GUIDE

Activity 1

1. B 2. B 3. B 4. A 5. A 6. A

Activity 2



Activity 3

1. 310 2. 500 3. -290 4. 212 5. -75 6. 455

Activity 4

1. > 2. < 3. = 4. < 5. = 6. > 7. < 8. < 9. > 10. >

Activity 5

1. - 2. + 3. + 4. - 5. - 6. -



ANSWER GUIDE

Activity 6

1. TRUE 2. 450 3. 2,500 4. TRUE 5. 1,200

Activity 7

1. 30 2. 30 3. 38 4. 3,100 5. 31

Activity 8

| L TO G | G TO L |
|---------------------------|---------------------------|
| $- 20 \times 15 $ | $3 \times -5 \times 12 $ |
| $ 30 - 50 $ | $ 137 - 12 $ |
| $ 100 - 25 $ | $ 35 + 15 \times 2$ |
| $ 35 + 15 \times 2$ | $ 100 - 25 $ |
| $ 137 - 12 $ | $ 30 - 50 $ |
| $3 \times -5 \times 12 $ | $- 20 \times 15 $ |

Activity 9

Answers to this may vary.

Activity 10

Answers to this may vary.



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