



Absolute value

GRADE 6 MATH

Answer keys for the exit ticket, practice worksheet, and homework, plus notes for the lesson slides. Each answer shows the steps and the most likely wrong answer (“If wrong”), so you can tell what a mistake means, not just that it is one. Questions go from **fluency** to **application** to **reasoning**.

Exit Ticket — answer key

Use: End of the absolute-value lesson. 5–8 min, independent. Pairs with ordering (the “Ordering rational numbers” sheet (Grade 6)).

Timing: 5–8 min · independent. Item 4 is the standard’s real target: greater absolute value with a smaller number. Same person for both answers = the misconception.

1. $|-5|$ and $|5|$? **FLUENCY**

Answer: **Both equal 5**

1. -5 sits 5 units from zero; 5 also sits 5 units from zero.
2. Absolute value asks only HOW FAR, not which side.
3. So $|-5| = |5| = 5$.

If wrong: Answered $|-5| = -5$ — treated the bars as decoration. Distance from zero is never negative.

2. $|-3/4|$? **APPLICATION**

Answer: **$3/4$**

1. $-3/4$ sits $3/4$ of a unit from zero.

If wrong: Answered $-3/4$ — kept the sign inside the bars.

3. $|-2.5|$? **APPLICATION**

Answer: **2.5**

1. -2.5 sits 2.5 units from zero.

If wrong: Answered -2.5 , or 2.5 with the sign flipped back on afterwards.

4. Ana -75 , Ben -40 — greater absolute value? greater number? REASONING

Answer: **Ana's debt has the greater absolute value ($75 > 40$); Ben's -40 is the greater number**

1. Ana: -75 , Ben: -40 .
2. $|-75| = 75$ and $|-40| = 40$, so Ana's debt is bigger in size.
3. But -40 sits farther right than -75 , so Ben's BALANCE is the greater number.
4. Absolute value measures size of the debt; the number itself measures position.

If wrong: Gave the same person for both. With negatives, greater absolute value goes with the SMALLER number — that is the whole point of this standard.

Quick answers for fast checking:

#	Level	Answer
1	fluency	5 and 5
2	application	3/4
3	application	2.5
4	reasoning	Ana bigger debt; Ben greater number

Practice Worksheet — answer key

Use: During the lesson after the mini-lesson/deck. Items 6–7 both ask the two questions side by side; that pairing is the skill.

Timing: 15–25 min · pairs or independent · circulate on 7–9. Items 1–3 fluency, 4–6 application, 7–9 reasoning. Watch for the same answer given to both halves of 6 and 7.

1. $|-9|$? FLUENCY

Answer: **9**

1. Nine units from zero.

If wrong: Answered -9 .

2. $|12|$? FLUENCY

Answer: **12**

1. Twelve units from zero; already positive.

If wrong: Answered -12 — thought the bars change the sign.

3. $|0|$? **FLUENCY**

Answer: **0**

1. Zero is zero units from itself.
2. Distance of 0 is 0.

If wrong: Said 'undefined' or 1. Zero is the one number whose absolute value is itself and also 0.

4. $|-1/2|$? **APPLICATION**

Answer: **$1/2$**

1. Half a unit from zero.

If wrong: Answered $-1/2$.

5. $|-4.6|$? **APPLICATION**

Answer: **4.6**

1. 4.6 units from zero.

If wrong: Answered -4.6 .

6. -7 vs 3 — greater absolute value? greater number? **APPLICATION**

Answer: **-7 has the greater absolute value ($7 > 3$); 3 is the greater number**

1. $|-7| = 7$ and $|3| = 3$, so -7 is farther from zero.
2. But 3 sits to the right of -7 , so 3 is the greater number.

If wrong: Gave -7 for both — a number can be farther from zero and still be smaller.

7. Diver -30 m, bird -10 m — greater absolute value? higher? **REASONING**

Answer: **The diver's -30 has the greater absolute value; the bird at -10 is higher**

1. $|-30| = 30$, $|-10| = 10$, so the diver is farther from sea level.
2. -10 sits farther right than -30 , so the bird is higher.
3. Farther from zero, but lower — because the distance is downward.

If wrong: Said the diver is higher because $30 > 10$. Distance from zero says nothing about direction.

8. Why do -6 and 6 share an absolute value but differ? REASONING

Answer: **Both are 6 units from zero, but on opposite sides**

1. $|-6| = |6| = 6$ — same distance.
2. -6 is left of zero; 6 is right of zero.
3. Absolute value throws away the direction, so two different numbers can share one.

If wrong: Concluded that $-6 = 6$. Equal distance is not equal value.

9. Jordan: $|-8| = -8$? REASONING

Answer: **No — $|-8| = 8$**

1. Absolute value is a distance, and distance is never negative.
2. -8 sits 8 units from zero, so $|-8| = 8$.
3. The bars ask ‘how far?’, they do not keep the sign.

If wrong: Read the bars as brackets that leave the number alone.

Quick answers for fast checking:

#	Level	Answer
1	fluency	9
2	fluency	12
3	fluency	0
4	application	$\frac{1}{2}$
5	application	4.6
6	application	-7 farther; 3 greater
7	reasoning	Diver farther; bird higher
8	reasoning	Same distance, opposite sides
9	reasoning	8

Homework — answer key

Use: Parallels the practice sheet one-to-one. Item 8 requires naming a partly-correct statement — a useful habit, not just a right answer.

Timing: ~15 min at home · independent · review item 8 as the next-day warm-up.

1. $|-11|$? **FLUENCY**

Answer: **11**

1. Eleven units from zero.

If wrong: Answered -11 .

2. $|8|$? **FLUENCY**

Answer: **8**

1. Already 8 units from zero.

If wrong: Answered -8 .

3. $|-2/3|$? **FLUENCY**

Answer: **$2/3$**

1. Two-thirds of a unit from zero.

If wrong: Answered $-2/3$.

4. $|-3.2|$? **APPLICATION**

Answer: **3.2**

1. 3.2 units from zero.

If wrong: Answered -3.2 .

5. -15 vs 9 — greater absolute value? greater number? **APPLICATION**

Answer: **-15 has the greater absolute value ($15 > 9$); 9 is the greater number**

1. $|-15| = 15$, $|9| = 9$.

2. But 9 sits right of -15 , so 9 is greater.

If wrong: Gave -15 for both.

6. -60 m vs -25 m — greater absolute value? higher? APPLICATION

Answer: **-60 has the greater absolute value; the sub at -25 is higher**

1. $|-60| = 60 > |-25| = 25$.
2. -25 sits farther right, so it is higher (closer to the surface).

If wrong: Said -60 is higher because it is the bigger distance — deeper, not higher.

7. Why can an absolute value never be negative? REASONING

Answer: **Because it measures distance, and a distance cannot be less than nothing**

1. Absolute value answers ‘how far from zero?’
2. You can be 0 units away or more, but never -3 units away.
3. So $|x|$ is always 0 or positive.

If wrong: Said ‘because the bars make it positive’ — a rule without the reason. The reason is that distance has no direction.

8. Riley: $-60 > -25$ because 60 is farther from zero? REASONING

Answer: **Right that 60 is farther from zero; wrong that -60 is greater — it is smaller**

1. Correct: $|-60| = 60 > |-25| = 25$, so -60 IS farther from zero.
2. Incorrect: farther from zero on the LEFT means farther left, so $-60 < -25$.
3. Distance from zero and greater-than are two different comparisons.

If wrong: Either agreed fully with Riley, or dismissed the whole statement. Half of it is exactly right — name both parts.

Quick answers for fast checking:

#	Level	Answer
1	fluency	11
2	fluency	8
3	fluency	2/3
4	application	3.2
5	application	-15 farther; 9 greater
6	application	-60 farther; -25 higher
7	reasoning	Distance cannot be negative
8	reasoning	Right about distance, wrong about greater

Lesson slides — teaching notes & timing

Mini-lesson deck: ~12–15 min, then launch into the practice sheet. Slide numbers match the deck.

Slide	~Time	Note
1/8	0:00	Frame the skill: absolute value as distance, plus the comparison it enables.
2/8	1:00	Hook — poll 5 vs -5 . Do not resolve. The -5 answer comes from treating the bars as decoration.
3/8	3:00	Define it as DISTANCE, not as ‘make it positive.’ The rule-without-reason version fails on item 7 of the homework.
4/8	5:00	WE1 — resolve the hook on a number line. Both points, same distance, opposite sides.
5/8	7:00	WE2 — the debt pair. This is the standard’s real content. Say both sentences aloud and let the tension sit; both ARE true.
6/8	9:00	CFU — all-student response. Answers 2.5 and $\frac{3}{4}$. Watch for signs kept.
7/8	11:00	Name the two questions explicitly. Students who can restate them will not conflate size with value.
8/8	13:00	Launch the in-class practice sheet.