

CHAPTER 1 | CUMULATIVE REVIEW

Integers

Name _____

Date _____

Show organized work. Simplify fractions. Explain when asked.

1. Order the values from least to greatest: 26, $-|41|$, -18 , -7 , 0.

2. Copy and complete the statement using $<$, $>$, or $=$: $-|36|$ _____ -29 .

3. Evaluate $|-83| - |27|$.

4. A research submarine is 24 meters below sea level. A survey drone is 17 meters above sea level. What is the vertical distance between them? Write an integer expression and evaluate it.

Integers

5. Evaluate $-38 + 57$.
6. Evaluate $46 + (-71) + (-46)$. Use structure to make the calculation efficient.
7. Evaluate $-29 - (-64)$.
8. Evaluate $-18 - 37 + 52 - (-11)$.

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9. Evaluate $(-13)(7)$.**10.** Evaluate $(-4)(-9)(-5)$.**11.** Evaluate both expressions and explain why their values differ: $(-6)^2$ and -6^2 .

12. Evaluate $5 - 3(-8) + (-4)^2$.

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13. Evaluate $144 \div (-12)$.**14.** Evaluate $[(-72) \div 9](-5) - 14$.**15.** Use the Commutative and Associative Properties to evaluate mentally: $-27 + 64 + 27 - 14$.

16. A student writes $-8(3 - 5) = -24 - 40 = -64$. Identify the first error, give the correct value, and explain the sign of the answer.

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17. Solve $n + (-37) = 18$. Check your solution.

18. Solve $p - (-26) = -11$. Check your solution.

19. Solve $-9q = 117$.

20. Solve $-96 \div r = 12$.

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- 21.** At sunrise, the temperature is -6°F . It drops 19°F , then rises 13°F . What is the final temperature? Write and evaluate one expression.

- 22.** A hiker descends 135 feet, climbs 48 feet, and then descends 72 feet. What is the hiker's net change in elevation?

- 23.** A quiz has 12 questions. A correct response earns 4 points and an incorrect response earns -1 point. A student answers 9 correctly and 3 incorrectly. Find the total score and the mean number of points per question.

- 24.** A game account changes by +36, -52, +19, and -11 points in four rounds. What fifth-round change would make the total change exactly 0? Explain.

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- 25.** Two integers have a product of -72 and a sum of 1. Find the integers and justify that your pair meets both conditions.

- 26.** Two integers have a product of -96. What is the least possible distance between them on a number line? Identify the integers.

- 27.** A student claims $|a + b| = |a| + |b|$ for all integers a and b . Give a counterexample. Then describe when the statement is true.

- 28.** A student evaluates -3^2 as 9 because ‘a negative times a negative is positive.’ Identify the error and compare -3^2 with $(-3)^2$.

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- 29.** Use -8, -3, and 5 exactly once, together with at least two operations, to create an expression with value 29. Show that your expression works.

- 30.** Explain why division by 0 is undefined. Use the inverse relationship between multiplication and division in your explanation.

- 31.** Two points A and B are opposites on a number line and are 34 units apart. If $A < B$, find the coordinates of A and B. Explain.

- 32.** In a 15-question competition, a complete solution earns 6 points, a partial solution earns 2 points, and an incorrect solution earns -3 points. Team Orion has 8 complete, 3 partial, and 4 incorrect solutions. Team Nova has 6 complete and 2 incorrect solutions; all of its other solutions are partial. Find each total and mean score. Which team wins?
