2007 AMC 8

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2. 650 students were surveyed about their pasta preferences. The choices were lasagna, manicotti, ravioli and spaghetti. The results of the survey are displayed in the bar graph. What is the ratio of the number of students who preferred spaghetti to the number of students who preferred manicotti?

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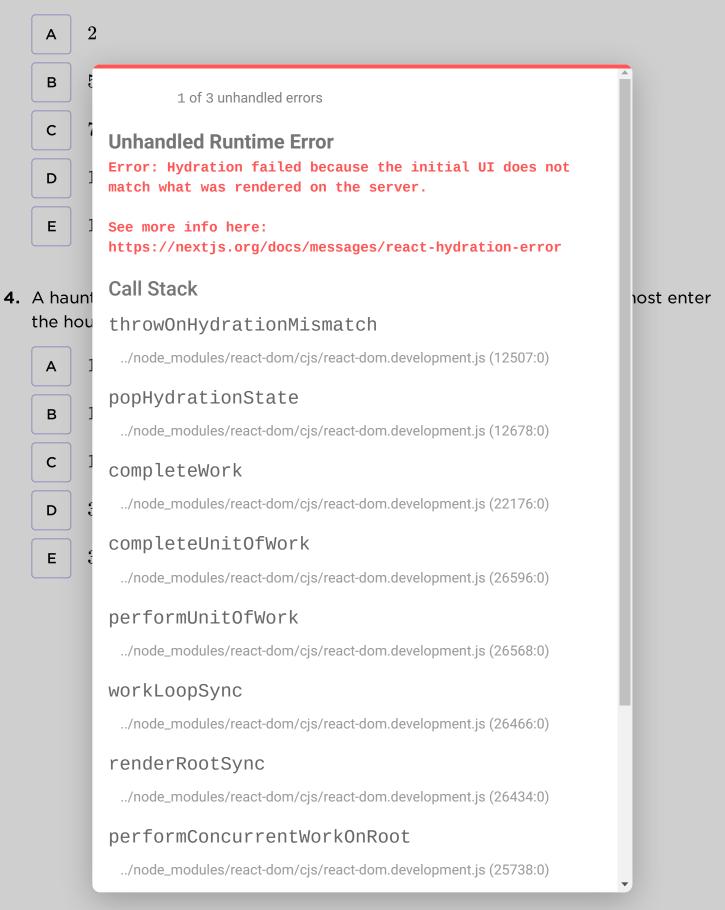
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3. What is the sum of the two smallest prime factors of 250?



5. Chandler wants to buy a 500 dollar mountain bike. For his birthday, his grandparents send him 50 dollars, his aunt sends him 35 dollars and his cousin gives him 15 dollars. He earns 16 dollars per week for his paper route. He will use all of his birthday money and all of the money he earns from his paper route. In how matches

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7. The average age of 5 people in a room is 30 years. An 18-year-old person leaves the room. What is the average age of the four remaining people?

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9. To complete the grid below, each of the digits 1 through 4 must occur once in each row and once in each column. What number will occupy the lower right-hand square?

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11. Tiles I, II, III and IV are translated so one tile coincides with each of the rectangles A, B, C and D. In the final arrangement, the two numbers on any side common to two adjacent tiles must be the same. Which of the tiles is translated to Rectangle C?

1 of 3 unhandled errors

Unhandled Runtime Error

Error: Hydration failed because the initial UI does not match what was rendered on the server.

See more info here: https://nextjs.org/docs/messages/react-hydration-error

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12. A unit hexagram is composed of a regular hexagon of side length 1 and its 6 equilateral triangular extensions, as shown in the diagram. What is the ratio of the area of the extensions to the area of the original hexagon?

1 of 3 unhandled errors

Unhandled Runtime Error

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13. Sets A and B, shown in the Venn diagram, have the same number of elements. Their union has 2007 elements and their intersection has 1001 elements. Find the number of elements in A.

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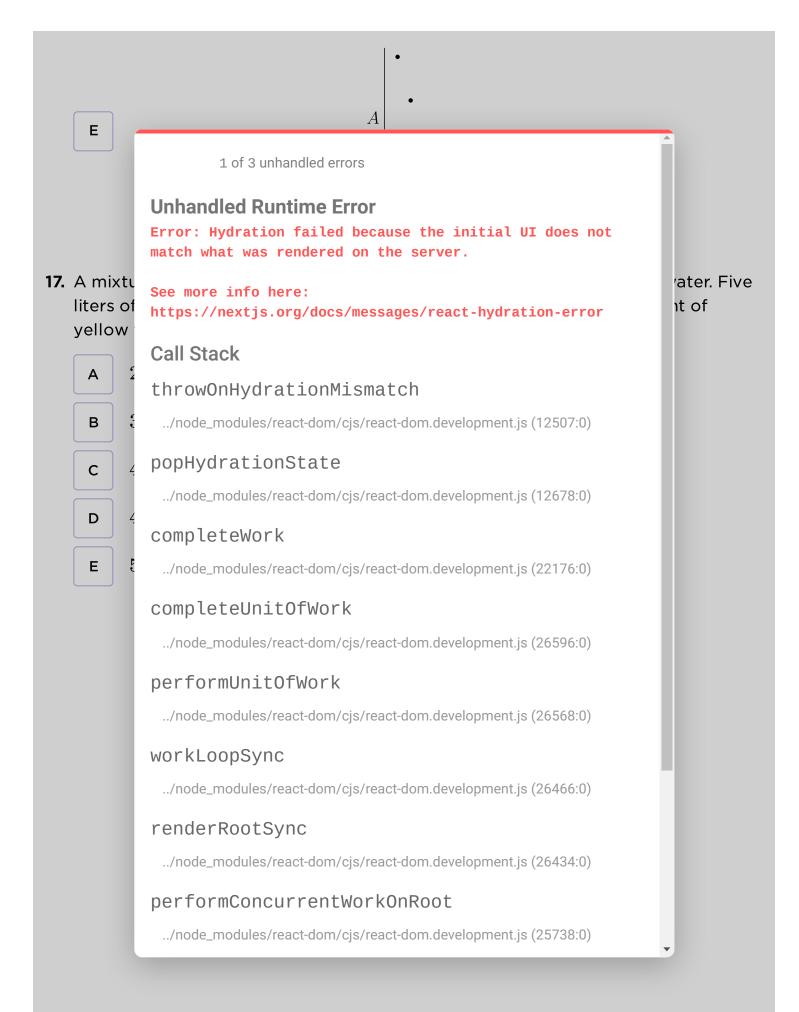
15. Let a, b and c be numbers with 0 < a < b < c. Which of the following is impossible?

A	a + c < b
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16. Amanda Reckonwith draws five circles with radii 1, 2, 3, 4 and 5. Then for each circle she plots the point (C, A), where C is its circumference and A is its area. Which of the following could be her graph?

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18. The pro	duct of the two 99 -digit numbers	
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20. Before district play, the Unicorns had won 45% of their basketball games. During district play, they won six more games and lost two, to finish the season having won half their games. How many games did the Unicorns play in all?

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- **22.** A lemming sits at a corner of a square with side length 10 meters. The lemming runs 6.2 meters along a diagonal toward the opposite corner. It stops, makes a 90° right turn and runs 2 more meters. A scientist measures the shortest distance between the lemming and each side of the square. What is the average of these four dis 1 of 3 unhandled errors Α **Unhandled Runtime Error** Error: Hydration failed because the initial UI does not В match what was rendered on the server. С See more info here: https://nextjs.org/docs/messages/react-hydration-error D **Call Stack** Е throwOnHydrationMismatch ../node_modules/react-dom/cjs/react-dom.development.js (12507:0) 23. What is popHydrationState ../node_modules/react-dom/cjs/react-dom.development.js (12678:0) completeWork ../node_modules/react-dom/cjs/react-dom.development.js (22176:0) completeUnitOfWork ../node_modules/react-dom/cjs/react-dom.development.js (26596:0) performUnitOfWork Α ../node_modules/react-dom/cjs/react-dom.development.js (26568:0) В workLoopSync С ../node_modules/react-dom/cjs/react-dom.development.js (26466:0)
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24. A bag contains four pieces of paper, each labeled with one of the digits 1, 2, 3 or 4, with no repeats. Three of these pieces are drawn, one at a time without replacement, to construct a three-digit number. What is the probability that the three-digit number is a multiple of 3?

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