

Name _____

1. What is the sum of $123 + 247 + 108$?

2. Find a reasonable estimate for the sum of 109 and 168. Select all that apply.

- $100 + 200 = 300$
- $150 + 150 = 300$
- $110 + 170 = 280$
- $105 + 165 = 270$
- $120 + 180 = 300$

3. Add $473 + 102$ mentally. Which of the following should you do first to find the sum?

- (A) Add 2 to 473 and add 2 to 102.
- (B) Subtract 3 from 473 and add 2 to 102.
- (C) Add 2 to 473 and subtract 2 from 102.
- (D) Subtract 3 from 473 and subtract 2 from 102.

4. Estimate the difference of 825 and 213. Explain your estimate.

5. Look at the sums in the light gray shaded row and column. Look at the addends. What pattern do you see? Explain why this pattern is always true.

+	0	1	2	3	4	5
0	0	1	2	3	4	5
1	1	2	3	4	5	6
2	2	3	4	5	6	7
3	3	4	5	6	7	8
4	4	5	6	7	8	9
5	5	6	7	8	9	10

6. Use mental math to add 526 and 213. Which of these shows how to break apart the numbers into hundreds, tens, and ones?

- (A) Break 526 into $500 + 20 + 6$. Break 213 into $200 + 13$.
- (B) Break 526 into $500 + 20 + 6$. Break 213 into $200 + 10 + 3$.
- (C) Break 526 into $500 + 26$. Break 213 into $200 + 10 + 3$.
- (D) Break 526 into $500 + 26 + 6$. Break 213 into $200 + 13 + 3$.

7. Use mental math to find $436 - 238$.

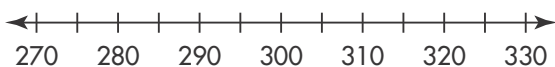
8. Select all the equations that are true.

- $100 + 170 = 170 + 100$
- $0 + 93 = 93$
- $(100 + 10) + 170 = 110 + (10 + 170)$
- $32 + (4 + 115) = (32 + 4) + 115$
- $43 + 0 = 0$

9. Look at the table.

A	325
B	296
C	291
D	312

Write the letters A, B, C, and D above the number line to show each number rounded to the nearest ten.



10. Use the addition work shown.

$$\begin{array}{r} 183 \\ + 45 \\ \hline 228 \end{array}$$

Which strategy shows a way to check the work using inverse operations?

- (A) Subtract 45 from 183.
- (B) Add 228 and 45.
- (C) Subtract 45 from 228.
- (D) Add 228 and 183.

11. Estimate the sum of 320 and 490 by rounding to the nearest hundred. Explain your estimate.

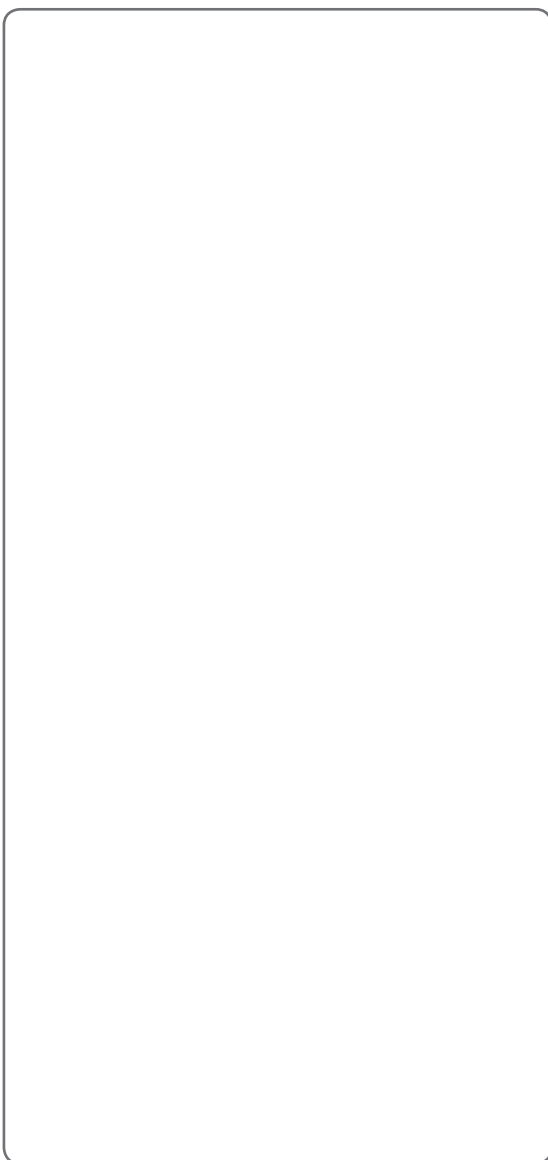
12. What addition equation can be used to check the answer for $668 - 432 = 236$? Draw a bar diagram to show how the numbers in this problem are related.

13. Find the sum of 165, 99, and 47.

A. Draw a bar diagram that represents the problem.



B. What is the first step you would do to solve this problem using mental math?



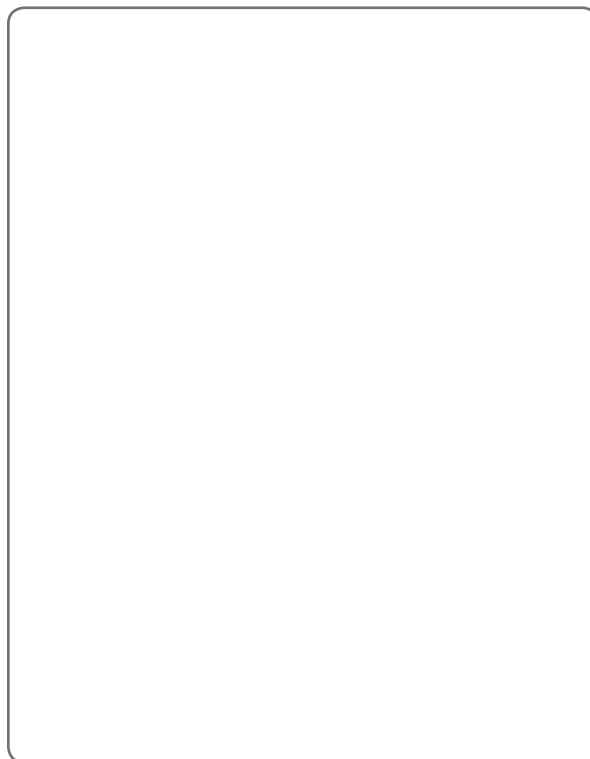
14. Subtract $387 - 103$ mentally. First subtract 3 from 103 to get 100. What should the next step be? What is the difference?

- (A) Add 3 to 387. The difference is 287.
- (B) Add 100 to 387. The difference is 487.
- (C) Subtract 3 from 387. The difference is 284.
- (D) Subtract 3 from 387. The difference is 287.

15. Round each number on the left to the nearest hundred. Select the appropriate answer.

	400	700	500	600
732	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
555	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
449	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
498	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Explain how to use mental math to find $530 - 166$.



17. How can you check the answer for $765 - 321 = 444$?

- (A) Subtract $765 - 300 = 465$.
- (B) Add $321 + 444 = 765$.
- (C) Add $300 + 444 = 744$.
- (D) Subtract $444 - 321 = 123$.

18. Consider the sum of 224, 187, and 352.

A. Estimate the sum by rounding to the nearest ten. Explain your estimate.

B. What is the difference between the exact sum of 224, 187, and 352 and your estimate? Explain your answer.

19. Consider the equation $372 = \underline{\hspace{2cm}} + 48$.

Use a bar diagram to represent the equation. Then solve for the unknown value.