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## Mastery Test

Add and subtract rational numbers (integers, fractions and decimals)

## Directions: Choose the letter of the best answer.

1. Identify the expression that is NOT equal to the other three.
a. $15-|-5|$
b. $|-4|+6$
C. $-|7+3|$
d. $|-10|$
2. Which of the following expressions is represented by the number line below?

a. $-4+3$
b. $-4+7$
C. $3+(-7)$
d. $0+(-7)$
3. At 8 A.M., the temperature was 30 F below zero. By 1 P.M., the temperature rose $14{ }^{\circ} \mathrm{F}$ and by 10 P.M., dropped $12^{\circ} \mathrm{F}$. What was the temperature at 10 P.M.?
a. $5^{\circ} \mathrm{F}$ above zero
b. $5^{\circ} \mathrm{F}$ below zero
c. 10F above zero
d. 10F below zero
4. When $\mathbf{n}$ is a negative integer, $\mathbf{n}-\mathbf{n}=\mathbf{0}$.
a. True
b. False
c. Sometimes
d. None of the above
5. Which sentence about integers is NOT always true?
a. positive - positive $=$ positive
b. positive + positive $=$ positive
c. negative + negative $=$ negative
d. positive - negative $=$ positive
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Class: $\qquad$ Date: $\qquad$

## Mastery Test

Add and subtract rational numbers (integers, fractions and decimals) Directions: Answer each question. Show complete work. (2 points each)
6. The commutative property is true for addition. For example, $7+2=2+7$. Does commutative property apply to subtraction? Justify your answer.
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7. Use absolute value to express the distance between 10 and -4 . Show your work
8. The table below shows the temperature changes Monday morning in Bedford, New York over a 4-hour period after a cold front came through. If the beginning temperature was $-13^{\circ} \mathrm{F}$ at 5: 00 a.m., what was the temperature at 9: 00 a.m.? Show complete work.

| Change in Temperature |  |
| :---: | :---: |
| 5: 00 a.m. $-6: 00$ <br> a.m. | $-3^{\circ} \mathrm{F}$ |
| 6: $00 \mathrm{a} . \mathrm{m} . ~-~ 7: 00$ <br> a.m. | $-2^{\circ} \mathrm{F}$ |
| 7: $00 \mathrm{a} . \mathrm{m} . ~$ <br> 8: $00 \mathrm{a.m}$. | $-6^{\circ} \mathrm{F}$ |
| 8: 00 a.m. $-9: 00$ <br> a.m. | $7^{\circ} \mathrm{F}$ |

9. What value of $a$ will make the equation a true statement? Explain how you arrived at your solution.

$$
\left(-\frac{3}{4}+\frac{4}{3}\right)+a=0
$$

10. Using the Associative Property, $9+(6+3)=(9+6)+3$. Is $9-(6-3)$ equal to (96) - 3 ? Justify your answer. $\qquad$
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