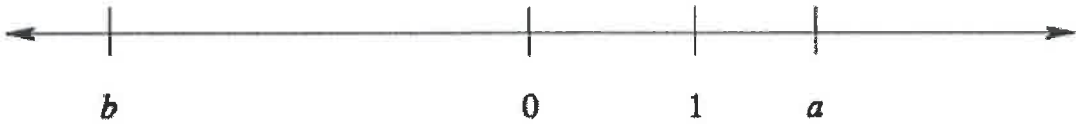
Name: Key Date: _____ Period: _____

***Accentuate the Negative* Unit Test Practice**

7.NS.1b/c: Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Interpret sums in real-world contexts. Understand subtraction of rational numbers as adding the additive inverse, p - q = p + (-q). Interpret differences in real-world contexts.

1. A number line is shown below. The numbers 0 and 1 are marked on the line, as are two other numbers, *a* and *b*. Assume the number line is drawn to scale.



Using the number line above, mark the following statements as true (T) or false (F). Explain your reasoning for each choice.

T $a + b$ = negative

b is farther from zero in the negative direction

F $b + 2$ = positive

b is more than 2 away from zero in the negative direction

F $a + -b$ = negative

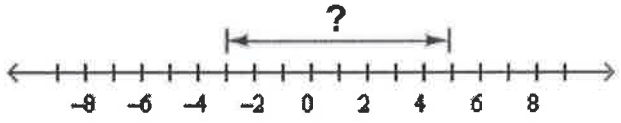
-b will be positive, and adding two positive numbers will give a positive sum

F $a \cdot b + 1$ = positive

a positive times a negative is a negative, and both a and b are farther from zero than one

Write two absolute value expressions for the distance between the two points on the number line below. Then, find the value of each expression.

2.

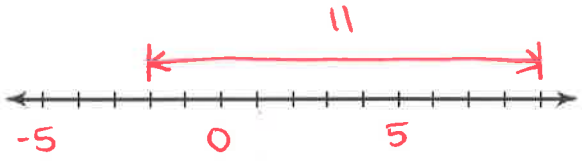


$|-3 - 5| = |-8| = 8$

$|5 - -3| = |8| = 8$

For the pair of points below, write and evaluate two absolute value expressions to represent the distance between the points. Then, make a number line to show the distance between the points.

3. 9 and –2



$|9 - -2| = |11| = 11$

$|-2 - 9| = |-11| = 11$

Name: Key Date: _____ Period: _____

***Accentuate the Negative* Unit Test Practice**

7.NS.1d: Apply properties of operations as strategies to add and subtract rational numbers.

Find each sum or difference. Show work for problems with fractions and decimals.

1. $-7 + -10 =$ -17
2. $17 - 30 =$ -13
3. $14 + -5 =$ 9
4. $-12 - -6 =$ -6
5. $-3 + -5 =$ -8
6. $-4 - 7 =$ -11
7. $-6 + 8 =$ 2
8. $-8 - -21 =$ 13
9. $9 + -12 =$ -3
10. $-6.2 + 3.6 =$ -2.6

$$\begin{array}{r} {}^{5}\not{6}.{}^{1}2 \\ -3.6 \\ \hline 2.6 \end{array}$$

11. $-4.5 - 3.89 =$ -8.39

$$\begin{array}{r} {}^{1}4.50 \\ +3.89 \\ \hline 8.39 \end{array}$$

12. $-0.8 - -0.72 =$ -0.08

$$\begin{array}{r} {}^{7}0.\not{8}0 \\ -0.72 \\ \hline .08 \end{array}$$

13. $11.3 + -9.198 =$ 2.102

$$\begin{array}{r} {}^{2}{}^{9}11.\not{3}{}^{1}\not{0}0 \\ -9.198 \\ \hline 2.102 \end{array}$$

14. $\frac{3}{8} - -3\frac{1}{2} =$ $\frac{31}{8}$ or $3\frac{7}{8}$

$\frac{3}{8} + \frac{7}{2} = \frac{3}{8} + \frac{28}{8} = \frac{31}{8}$

15. $\frac{7}{6} + -\frac{2}{3} =$ $\frac{1}{2}$

$\frac{7}{6} + \frac{-4}{6} = \frac{3}{6} = \frac{1}{2}$

16. $-\frac{4}{5} + 1\frac{1}{5} =$ $\frac{2}{5}$

$\frac{-4}{5} + \frac{6}{5} = \frac{2}{5}$

17. $-2\frac{2}{3} - -8\frac{1}{6} =$ $\frac{11}{2}$ or $5\frac{1}{2}$

$\frac{-8}{3} + \frac{49}{6} = \frac{-16}{6} + \frac{49}{6} = \frac{33}{6} = \frac{11}{2}$

Name: key Date: _____ Period: _____

***Accentuate the Negative* Unit Test Practice**

***7*.NS.2a/b:** Understand the rules for multiplying signed numbers, particularly with the distributive property. Interpret products in real-world contexts. Understand that integers can be divided, and every quotient of integers (with non-zero divisor) is a rational number. Interpret quotients in real-world contexts.

1. Use the distributive property to write an expression equal to each of the following expression. Solve.

a. $-2(-8+5)$ $= -2 \cdot -8 + -2 \cdot 5 = 6$

b. $(-7 \cdot -2) - (-7 \cdot -12)$

$= -7(-2 - -12) = -70$

2. Julie takes 4 friends to the movies, and gets popcorn for each person. Tickets cost $9.50 and popcorn costs $3.75.

a. Using your understanding of the distributive property, write TWO equivalent number sentences (one factored and one expanded) that would find the total cost for all five people.

$5(9.50 + 3.75)$

$5 \cdot 9.50 + 5 \cdot 3.75$

b. What is the total cost for all five people? Show your work and include units.

$9.50 + 3.75 = 13.25$

$13.25 \times 5 = 66.25$

$66.25

3. Mike is participating a marathon. He runs, jogs, and walks 26 miles in 3.2 hours. What is his average speed (miles per hour) for the marathon? Show your work and include units with your answer.

$26 \div 3.2 =$ 8.125 mph

Find the decimal equivalent. Show your work.

1. $\frac{9}{-8} = -1.125$

$8\overline{)9.000}$: -8, 10, -8, 20, -16, 40, -40, 0

2. $\frac{-8}{-11} = 0.\overline{72}$

$11\overline{)8.000}$: -77, 30, -22, 80, -77, 3

3. $\frac{-5}{-18} = 0.2\overline{7}$

$18\overline{)5.000}$: -36, 140, -126, 140, -126, 14

4. $\frac{-5}{16} = -0.3125$

$16\overline{)5.0000}$: -48, 20, -16, 40, -32, 80, -80, 0

Name: Key Date: Period:

***Accentuate the Negative* Unit Test Practice**

7.NS.2c: Apply properties of operations as strategies to multiply and divide rational numbers.

Find each quotient or product. Show work for problems with fractions and decimals.

1. $-9 \cdot 4 =$ -36

2. $\frac{-20}{-4} =$ 5

3. $-11 \cdot -3 =$ 33

4. $-8 \div 2 =$ -4

5. $7 \cdot -5 =$ -35

6. $70 \div -10 =$ -7

7. $6.36 \cdot -1.2 =$ -7.632

$$\begin{array}{r} 6.36 \\ \times\ 1.2 \\ \hline 1272 \\ +\ 6360 \\ \hline 7.632 \end{array}$$

8. $-3.6 \div 1.8 =$ -2

$1.8\overline{)3.6} \rightarrow 18\overline{)36}$ $\quad 2$, -36, 0

9. $1.2 \div -10 =$ -0.12

$10\overline{)1.2} \rightarrow 100\overline{)12.00}$ $\quad 0.12$, -100, 200, -200, 0

10. $-8.9 \cdot -7.6 =$ 67.64

$$\begin{array}{r} 8.9 \\ \times\ 7.6 \\ \hline 534 \\ +\ 6230 \\ \hline 67.64 \end{array}$$

11. $1\frac{3}{4} \div -\frac{1}{2} =$ $-\frac{7}{2}$ or $-3\frac{1}{2}$

$\frac{7}{4} \div \frac{1}{2}$

$\frac{7}{4} \cdot \frac{2}{1} = \frac{14}{4} = \frac{7}{2}$

12. $-\frac{1}{3} \cdot 2\frac{5}{7} =$ $-\frac{19}{21}$

$\frac{1}{3} \cdot \frac{19}{7} = \frac{19}{21}$

13. $-\frac{3}{2} \cdot -3\frac{1}{4} =$ $\frac{39}{8}$ or $4\frac{7}{8}$

$\frac{3}{2} \cdot \frac{13}{4} = \frac{39}{8}$

14. $-3\frac{1}{3} \div -2\frac{2}{5} =$ $\frac{25}{18}$ or $1\frac{7}{8}$

$\frac{10}{3} \div \frac{12}{5}$

$\frac{10}{3} \cdot \frac{5}{12} = \frac{50}{36} = \frac{25}{18}$

Name: Key Date: Period:

***Accentuate the Negative* Unit Test Practice**

7.NS.3: Solve real-world and mathematical problems involving the four operations with rational numbers (order of operations).

Find the value of each expression. Show all steps.

1. $4 \cdot (5 + -3) - 2$

$4 \cdot 2 - 2$

$8 - 2$

6

2. $-5 \div (-4 - 1 + 2^2)$

$-5 \div (-4 - 1 + 4)$

$-5 \div (-5 + 4)$

$-5 \div -1$

5

3. $-5 \cdot -3(4 - 4 \cdot 2)$

$-5 \cdot -3(4 - 8)$

$-5 \cdot -3(-4)$

$15(-4)$

-60

4. $10 - (50 \div (-2 \cdot 25) + 7) \cdot 2^2$

$10 - (50 \div (-50) + 7) \cdot 2^2$

$10 - (-1 + 7) \cdot 2^2$

$10 - 6 \cdot 2^2$

$10 - 6 \cdot 4$

$10 - 24$

-14

5. $\frac{3}{5}(-3\frac{1}{6} + 1\frac{5}{6} - -2\frac{2}{3})$

$\frac{3}{5}\left(\frac{-19}{6} + \frac{11}{6} - -\frac{8}{3}\right)$

$\frac{3}{5}\left(-\frac{8}{6} - -\frac{16}{6}\right)$

$\frac{3}{5}\left(\frac{8}{6}\right)$

$\frac{24}{30}$

$\frac{4}{5}$

6. $(-5.6 + 4 \div -0.4) \cdot 3.7$

$(-5.6 + -10) \cdot 3.7$

$-15.6 \cdot 3.7$

-57.72

$0.4\overline{)4} \rightarrow 4\overline{)40}$

10

-40

0

$\begin{array}{r} {\scriptstyle 1\ \ 1} \\ {\scriptstyle 3\ 4} \\ 15.6 \\ \times\ 3.7 \\ \hline 1092 \\ +\ 4680 \\ \hline 57.72 \end{array}$