Unit C Operations and Ordering Rational Numbers
Unit Review Packet

Name Key

Directions: Do ALL (A) Questions. Check Your Answers to (A) Questions. If ALL (A) Questions are correct, skip (B) Questions and move onto next "I can" statement. If you get any (A) Questions wrong, MAKE CORRECTIONS and do ALL (B) Questions.

"I Can Add, Subtract, Multiply, and Divide Multi-Digit Decimals and Apply each Operation to Solve Real-World Problems."

A1: $15.67 + 4.972 + 8$

$$\begin{array}{r} {\scriptstyle 1\ \ 1\ \ 1} \\ 15.670 \\ 4.972 \\ +\ \ 8.000 \\ \hline 28.642 \end{array}$$

B1: $142.5 + 3.489$

$$\begin{array}{r} 142.500 \\ +\ \ 3.489 \\ \hline 145.989 \end{array}$$

A2: $13.05 - 8.47$

$$\begin{array}{r} {\scriptstyle 0\ \ 12\ \ 9} \\ 13.\cancel{0}15 \\ -\ \ 8.47 \\ \hline 4.58 \end{array}$$

B2: $3.4 - 0.562$

$$\begin{array}{r} {\scriptstyle 2\ \ 13\ \ 9} \\ 3.\cancel{4}\cancel{0}10 \\ -\ 0.562 \\ \hline 2.838 \end{array}$$

A3: 18.6 • 0.73

$$\begin{array}{r} 18.6 \\ \times\ 0.73 \\ \hline 558 \\ +13020 \\ \hline 13.578 \end{array}$$

B3: 1.652 • 8.5

$$\begin{array}{r} 1.652 \\ \times\ 8.5 \\ \hline 8260 \\ +132160 \\ \hline 14.0420 \end{array}$$

or 14.042

A4: 8.25 ÷ 0.6

$$\begin{array}{r} 13.75 \\ 0.6 \overline{)\ 8.250} \\ -6 \\ \hline 22 \\ -18 \\ \hline 45 \\ -42 \\ \hline 30 \\ -30 \\ \hline 0 \end{array}$$

B4: 19.62 ÷ 1.2

$$\begin{array}{r} 016.35 \\ 1.2 \overline{)\ 19.620} \\ -0 \\ \hline 19 \\ -12 \\ \hline 76 \\ -72 \\ \hline 42 \\ -36 \\ \hline 60 \\ -60 \\ \hline 0 \end{array}$$

A5: Bethany and Jessica decided to race each other on their scooters. Bethany finished 4.3 seconds before Jessica and won the race. If Jessica finished with a time of 47.2 seconds, how fast was Bethany's time?

Bethany + 4.3 seconds = Jessica (47.2)

$$\begin{array}{r} {}^{6}\cancel{4}{}^{1}7.12 \\ -\ \ 4.3 \\ \hline 42.9 \end{array}$$

42.9 seconds

A6: Stewart went to the grocery store and bought 2.5 pounds of sour gummy worms that cost $1.78 per pound and a bottle of soda that cost $3.34. What is the total Stewart will pay?

$$\begin{array}{r} {}^{1}\ {}^{1} \\ 3\ \cancel{4} \\ 1.78 \\ \times\ 2.5 \\ \hline 1'890 \\ +\ 3560 \\ \hline 4450 \end{array}$$

$4.45

$4.45 for gummy worms
+ $3.34 for soda
$7.79 Total

A7: James has $7.85 in nickels. Since each nickel is worth $0.05, how many nickels does James have?

How many nickels are in $7.85?

$$\begin{array}{r|l} & 157. \\ \hline 0.05 & 7.85 \\ -5\downarrow & \\ \hline 28 & \\ -25\downarrow & \\ \hline 35 & \\ -35 & \\ \hline 0 & \end{array}$$

157 nickels

"I Can Explain How Positive and Negative Numbers Relate to Real-World Examples and the Meaning of 0 in each."

A1: A gain of 56 points in a game. 56

A2: A fee charged of $2.50. -2.50

A3: A temperature of 32 degrees below zero. -32

A4: The diver is 30 feet above sea level. 30

B1: A debt of $40. -40

B2: A deposit of $225. 225

B3: Alex's body temperature dropped 2 degree. -2

B4: A loss of 13 pounds. -13

"I Understand the Relationship of a Number and its Opposite and Can Recognize that the Opposite of a Number's Opposite is the Number itself."

"I Can Explain how the Absolute Value of a number relates its Distance from 0."

A1: The opposite of -4 4

A2: The opposite of 9 -9

A3: The opposite of $|-12|$ -12
12

A4: $-(-10)$ 10

A5: $-|5|$ -5

B1: The opposite of 7 -7

B2: The opposite of -15 15

B3: The opposite of $|16|$ -16
16

B4: $|-20|$ 20

B5: $-|-8|$ -8

A6: For $a=5$ and $b=-3$

$$4a^2-|b|$$

$4 \cdot 5^2 - |-3|$

$4 \cdot 5^2 - 3$

$4 \cdot 25 - 3$

$100 - 3$

97

B6: For $a=-4$ and $b=-2$

$$|b|+6 \cdot |a|$$

$|-2| + 6 \cdot |-4|$

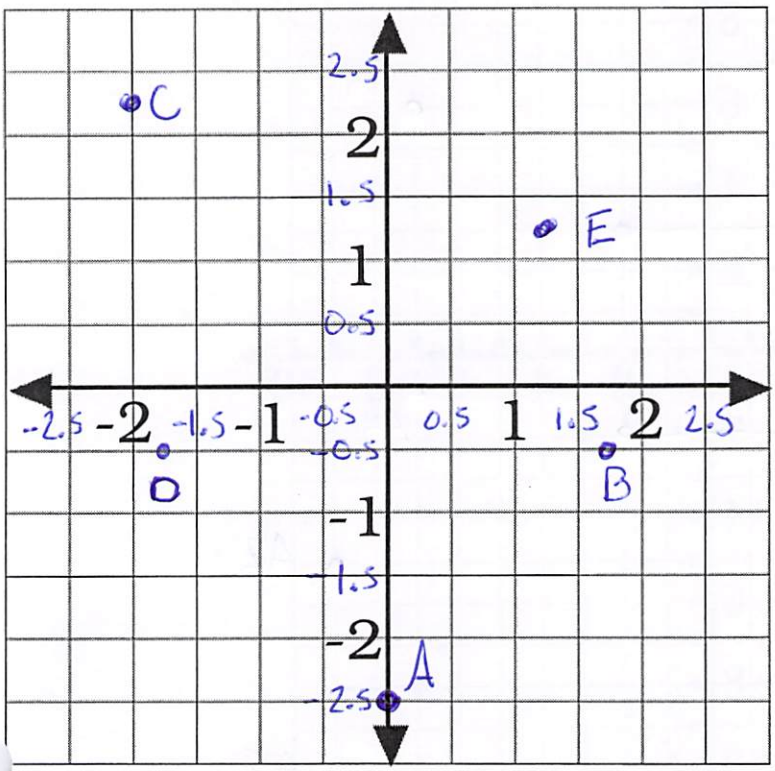
$2 + 6 \cdot 4$

$2 + 24$

26

"I Can Plot Rational Coordinates in all 4 Quadrants and Explain how the Signs in any Ordered Pair Change in each Quadrant of the Coordinate Graph."

A1:



Plot and label the points and name the quadrant.

A. (0, -2.5) Quadrant None

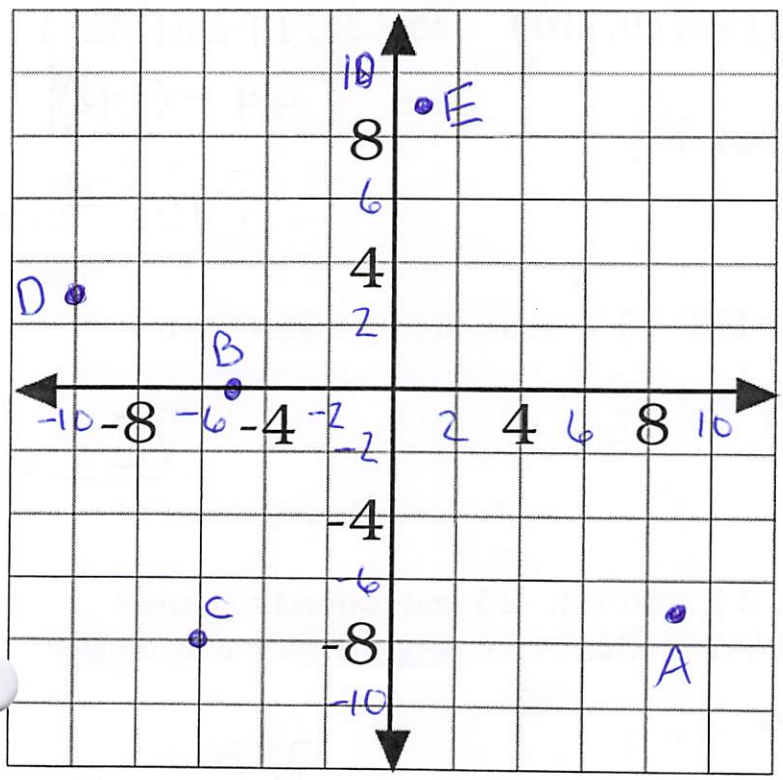
B. $(1\frac{3}{4}, -0.5)$ Quadrant IV

C. $(-2, 2\frac{1}{4})$ Quadrant II

D. $(-1\frac{3}{4}, -\frac{1}{2})$ Quadrant III

E. (1.25, 1.25) Quadrant I

B1:



Plot and label the points and name the quadrant.

A. (9, -7) Quadrant IV

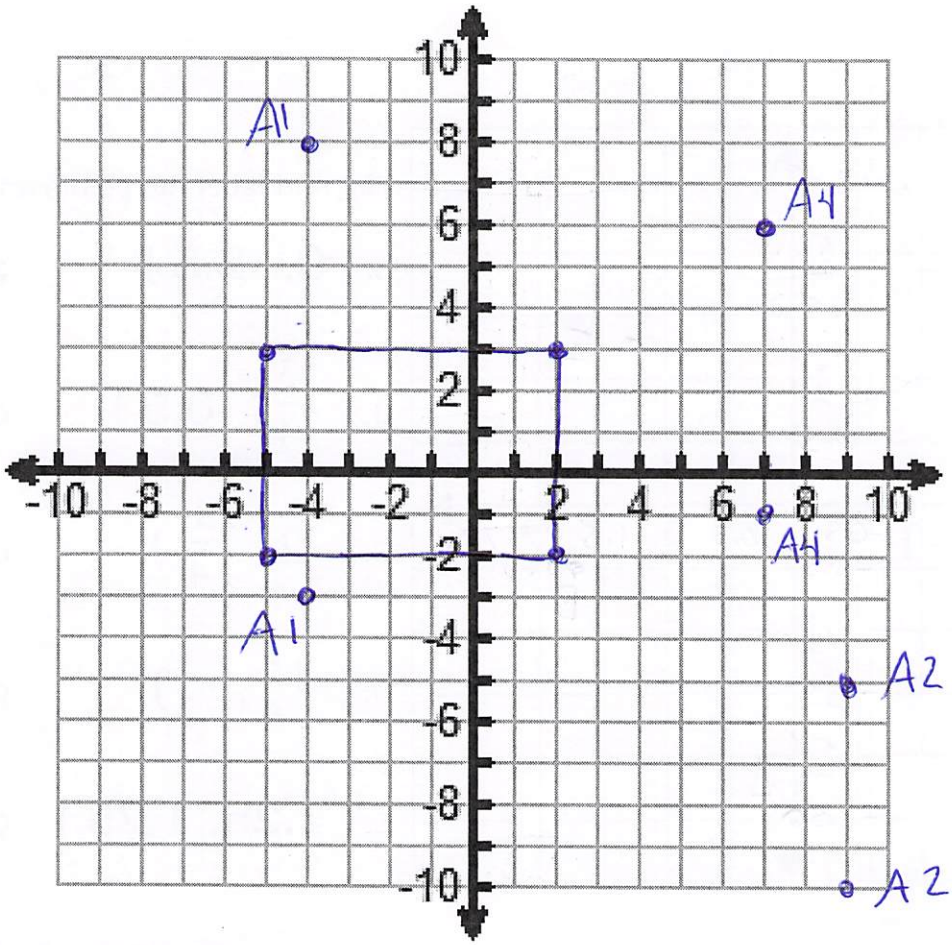
B. (-5, 0) Quadrant None

C. (-6, -8) Quadrant III

D. (-10, 3) Quadrant II

E. (1, 9) Quadrant I

"I Can Find the Vertical or Horizontal Distance Between two points on the Coordinate Plane."



Find the distance between the two points.

A1: (-4, -3) and (-4, 8) **A2**: (9, -5) and (9, -10) **A3**: (54, 1) and (-42, 1)

11 units 5 units $|54 - (-42)|$

$|96| = 96$ units

A4: Find the distance between (7, 6) and (7, -1) if each unit represents 12 feet.

7 units • 12 ft = 72

72 feet

B1: Plot the points (-5, -2), (-5, 3), (2, 3), and (2, -2) and connect to form a rectangle. If each unit represents 30 centimeters, what is the perimeter of the rectangle?

5 + 7 + 5 + 7 = 24 units

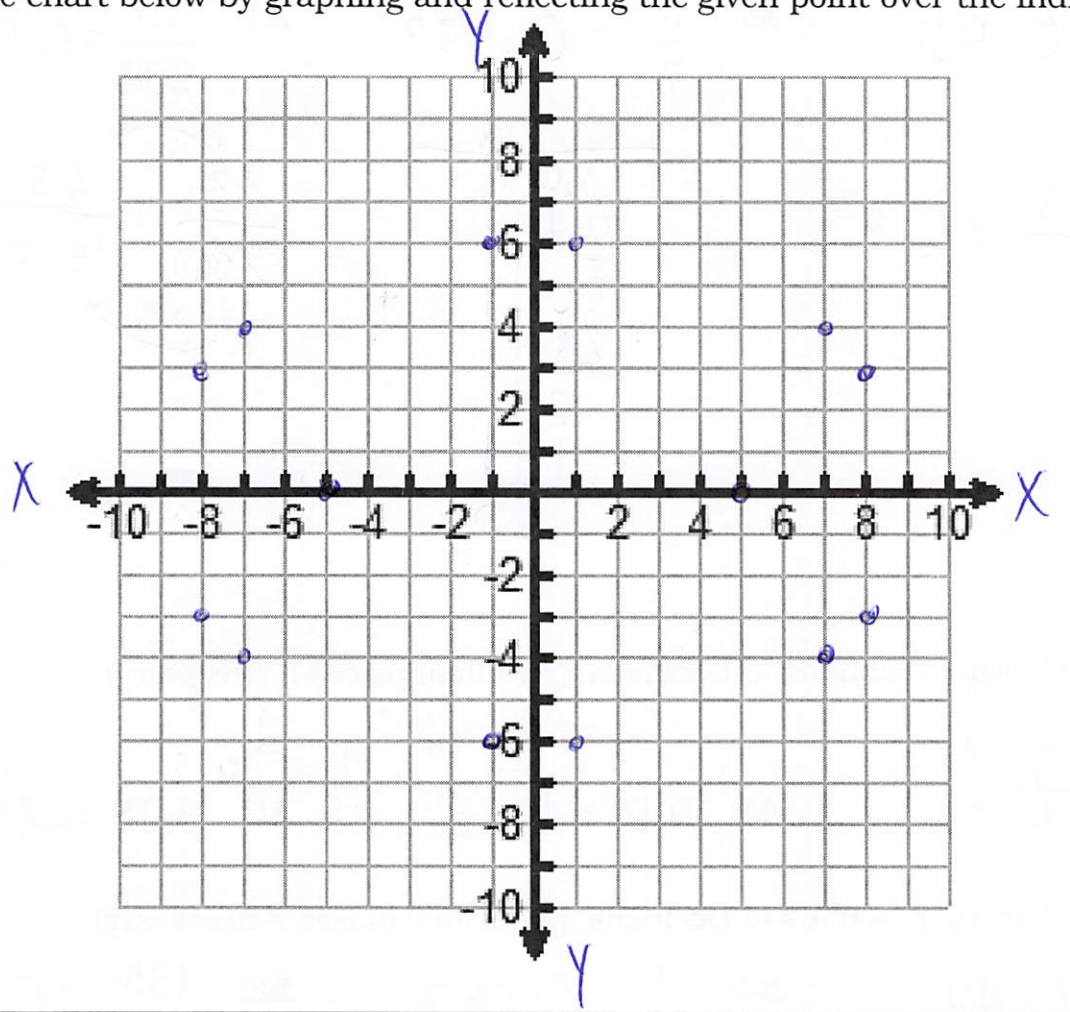
x 30 cm

720

720 centimeters

"I Can Explain how Changing the Sign of the Numbers in an Ordered Pair Causes it to Reflect on One or Both Axes."

Fill out the chart below by graphing and reflecting the given point over the indicated axis.



	A1: (-1, -6)	**A**2: (7, -4)	**B**1: (-5, 0)	**B**2: (8, 3)
Reflect over *x*-axis	(-1, 6)	(7, 4)	(-5, 0)	(8, -3)
Reflect over *y*-axis	(1, -6)	(-7, -4)	(5, 0)	(-8, 3)
Reflect over *x*-axis first and then reflect over *y*-axis	(1, 6)	(-7, 4)	(5, 0)	(-8, -3)
Reflect over *y*-axis first and then reflect over *x*-axis	(1, 6)	(-7, 4)	(5, 0)	(-8, -3)

"I Can Convert Fractions to Decimals and Decimals to Fractions."

Convert the following Fractions to Decimals. (3 decimal places if necessary)

A1: $\frac{9}{20} = 0.45$

$\frac{9}{20} \xrightarrow{\times 5} \frac{45}{100} = 0.45$

A2: $\frac{3}{7} = 0.428$

$$\begin{array}{r|l} & 0.428 \\ 7 & 3.000 \\ -0 & \\ \hline & 30 \\ -28 & \\ \hline & 20 \\ -14 & \\ \hline & 60 \end{array}$$

A3: $\frac{13}{200} = 0.065$

$\frac{13}{200} \xrightarrow{\times 5} \frac{65}{1000} = 0.065$

Convert the following Fractions to Decimals. (#decimal places if necessary)

A4: $0.8 = \frac{8}{10} \xrightarrow{\div 2} \frac{4}{5}$

A5: $0.16 = \frac{16}{100} \xrightarrow{\div 4} \frac{4}{25}$

A6: $3.25 = 3\frac{25}{100} \xrightarrow{\div 25} 3\frac{1}{4}$

Convert the following Fractions to Decimals. (3 decimal places if necessary)

B1: $\frac{11}{25} = 0.44$

$\frac{11}{25} \xrightarrow{\times 4} \frac{44}{100} = 0.44$

B2: $\frac{1}{12} = 0.083$

$$\begin{array}{r|l} & 0.083 \\ 12 & 1.000 \\ -0 & \\ \hline & 10 \\ -0 & \\ \hline & 100 \\ -96 & \\ \hline & 40 \\ -36 & \\ \hline & 4 \end{array}$$

B3: $\frac{135}{250} = 0.54$

$\frac{135}{250} \xrightarrow{\times 4} \frac{540}{1000} = 0.54$

Convert the following Fractions to Decimals. (#decimal places if necessary)

B4: $0.4 = \frac{4}{10} \xrightarrow{\div 2} \frac{2}{5}$

B5: $0.08 = \frac{8}{100} \xrightarrow{\div 4} \frac{2}{25}$

B6: $7.125 = 7\frac{125}{1000} \xrightarrow{\div 125} 7\frac{1}{8}$

"I Can Locate a Rational Number on the Number Line."
"I Can Compare two Rational Numbers on a Number Line and in an Inequality."
"I Can Explain the Meaning of Ordering Rational Numbers in a Real-World Situation."

Integers: > or <

A1: $-4 \boxed{>} -5$

A2: $-|27| \boxed{<} |27|$ (−27 < 27)

A3: $-10 \boxed{<} |-14|$ (−10 < 14)

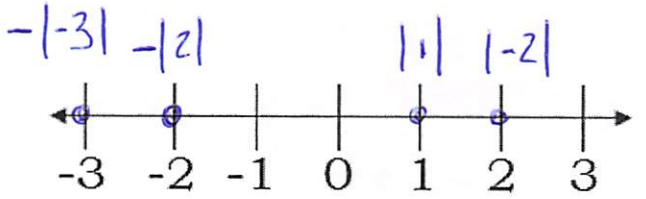
B1: $-9 \boxed{<} 15$

B2: $-|-7| \boxed{<} |-21|$ (−7 < 21)

B3: $|-10| \boxed{>} 0$ (10 > 0)

A5: Plot the following on the number line.

$-|2|\ ,\ -|-3|\ ,\ |1|\ ,\ |-2|$



A6: Put the following numbers in order from **greatest to least.**

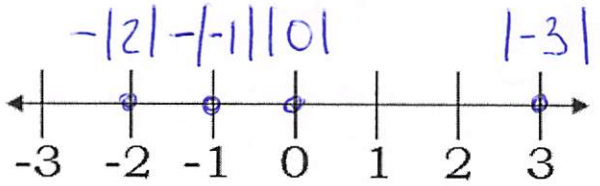
$-|26|\ ,\ -28\ ,\ |27|\ ,\ -|30|\ ,\ -(-25)$

(−26, −28, 27, −30, 25)

$|27|, -(-25), -|26|, -28, -|30|$

B5: Plot the following on the number line.

$|-3|\ ,\ |0|\ ,\ -|2|\ ,\ -|-1|$



A6: Put the following numbers in order from **greatest to least.**

$|15|\ ,\ -|-15|\ ,\ |-10|,\ -(-13)\ ,\ 11$

(15, −15, 10, 13, 11)

$|15|, -(-13), 11, |-10|, -|-15|$

Decimals and Fractions: > or <

A1: $0.347 \boxed{>} 0.340$

A2: $\frac{3}{8} \boxed{>} 0.\overline{3}$ (0.375 > 0.333)

A3: $\frac{3}{4} \boxed{<} \frac{7}{9}$ (0.75 < 0.77)

B1: $35.830 \boxed{>} 35.803$

B2: $0.45 \boxed{>} \frac{4}{9}$ (0.45 > 0.44)

B3: $\frac{5}{6} \boxed{>} \frac{8}{10}$ (0.83 > 0.80)

Order the following from **least to greatest.**

A1: 5.349 , 5.34 , 5.304 , 5.43 , 5.333

5.349
5.34
5.304
5.43
5.333

5.304, 5.333, 5.34, 5.349, 5.43

B1: 0.86 , 0.8 , $0.\overline{8}$, 0.809 , 0.089

0.86
0.8
0.88
0.809
0.089

0.089, 0.8, 0.809, 0.86, $0.\overline{8}$

A2: 0.35 , $\frac{2}{5}$, 0.52 , $\frac{1}{4}$, 0.403

0.4 0.25

$\frac{1}{4}$, 0.35, $\frac{2}{5}$, 0.403, 0.52

B2: $\frac{5}{6}$, $\frac{3}{4}$, 0.55 , $\frac{5}{9}$, 0.633

0.833 0.75 0.555

0.55, $\frac{5}{9}$, 0.633, $\frac{3}{4}$, $\frac{5}{6}$

A3: $-2\frac{1}{3}$, 4.85 , $3\frac{1}{2}$, $3.\overline{9}$, $-2\frac{2}{5}$

-2.33 3.5 -2.4

$-2\frac{2}{5}$, $-2\frac{1}{3}$, $3\frac{1}{2}$, $3.\overline{9}$, 4.85

B3: −1.325 , $\frac{1}{8}$, $-1\frac{7}{8}$, 1.5 , −2.375

0.125 -1.875

-2.375, $-1\frac{7}{8}$, -1.325, $\frac{1}{8}$, 1.5

A4: Plot the following rational numbers on the number line.

1.2 -0.44 -5.66 4.77 0.25 -2

$\frac{6}{5}$, 5.75, $-\left|-\frac{4}{9}\right|$, $-5\frac{2}{3}$, −3.25, $\left|-4\frac{7}{9}\right|$, $|-0.25|$, $-\frac{20}{10}$