

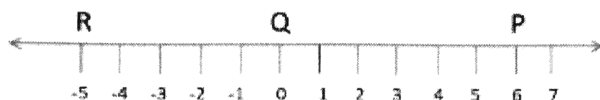
KEY

Name _____

Date _____

Pre-Algebra Unit 2 Review Sheet

1. Given the number line below:



A. What is the distance between R and P?

$$6 - (-5) = 6 + 5 = 11 \text{ units}$$

B. Point S is 1.5 units from R. Name the possible values of S.

$$\begin{aligned} -5 + 1.5 \\ -5 - 1.5 \end{aligned}$$

S could be -3.5 or -6.5

2. Express each of the following as an improper fraction or a mixed number.

a. $3\frac{5}{9}$

$$\frac{32}{9}$$

b. $-5\frac{3}{4}$

$$-\frac{23}{4}$$

c. $\frac{19}{2}$

$$9\frac{1}{2}$$

d. $\frac{-45}{11}$

$$-4\frac{1}{11}$$

3. Equivalent Forms of Numbers - complete the table below

Fraction	Decimal	Percent
$\frac{1}{3}$	$0.333\dots$ $\begin{array}{r} .33\dots \\ 3 \overline{) 1.00} \\ \underline{- 9} \\ 10 \end{array}$	$33.\bar{3}\%$
$\frac{625 \div 125}{1000 \div 125} = \frac{5}{8}$	$.625$	62.5%
$\frac{3}{1000}$	$.003$	0.3%

4. Evaluate each of the following expressions. Leave answers in simplest form.

<p>a.) $3.5 - 8.2$ $3.5 + (-8.2)$</p> $\begin{array}{r} 3.5 \\ -8.2 \\ \hline -4.7 \end{array}$ <p style="text-align: center;">-4.7</p>	<p>b.) $\frac{2}{3} + \frac{1}{5} + (-\frac{2}{3})$</p> $\frac{10}{15} + \frac{3}{15} + (-\frac{10}{15})$ $\frac{3}{15} = \frac{1}{5}$	<p>c.) $\frac{1}{3} + \frac{1}{5}$</p> $\frac{5}{15} + \frac{3}{15}$ $\frac{8}{15}$	<p>d.) $-2.8 - (-6.08)$ $-2.8 + 6.08$</p> $\begin{array}{r} 6.08 \\ -2.80 \\ \hline 3.28 \end{array}$ <p style="text-align: center;">3.28</p>	<p>e.) $1.4 - (-0.8)$ $1.4 + 0.8$</p> 2.2
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f.) $\frac{5}{9} \div \frac{1}{3}$ $\frac{5}{9} \cdot \frac{3}{1}$ $\frac{5}{3}$ or $\frac{2}{3}$	g.) $11.2(-6.4)$ $\begin{array}{r} 11.2 \\ \times 6.4 \\ \hline 448 \\ 6720 \\ \hline 71.68 \end{array}$ -71.68	h.) $-4.5(-9.2)$ $\begin{array}{r} 4.5 \\ \times 9.2 \\ \hline 90 \\ 4050 \\ \hline 41.40 \end{array}$ 41.40	i.) $\frac{-420}{-6}$ 70	j.) $-45 \div 1.5$ $1.5 \overline{) 45}$ $15 \overline{) 30}$ -30
k.) $0 \div -3.99$ 0	l.) $-9\frac{1}{3} + 1\frac{2}{3}$ $-\frac{28}{3} + \frac{5}{3}$ $-\frac{23}{3}$ $-7\frac{2}{3}$	m.) $-3\frac{1}{6} + 6\frac{5}{11}$ $-\frac{19}{6} + \frac{71}{11}$ $-\frac{209}{66} + \frac{426}{66}$ $\frac{217}{66}$ $3\frac{19}{66}$	n.) $-5\frac{2}{7} - 7\frac{5}{6}$ $-\frac{37}{7} - \frac{47}{6}$ $-\frac{222}{42} - \frac{329}{42}$ $-\frac{222}{42} + (-\frac{329}{42})$ $-\frac{551}{42}$ $-13\frac{5}{42}$	o.) $-3\frac{1}{3} \times 5\frac{13}{20}$ $-\frac{10}{3} \cdot \frac{113}{20}$ $-\frac{113}{6}$ $-18\frac{5}{6}$
p.) $-2 \div (-\frac{4}{11})$ $-\frac{2}{1} \cdot -\frac{11}{4}$ $\frac{11}{2}$ $5\frac{1}{2}$	q.) $\frac{2}{5}(\frac{2}{3} - \frac{1}{4})$ $\frac{2}{5}(\frac{8}{12} - \frac{3}{12})$ $\frac{2}{5}(\frac{5}{12})$ $\frac{2}{12}$ $\frac{1}{6}$	r.) $\frac{1}{2}(0.5 + (-1.7))$ $\frac{1.7}{1.2}$ $\frac{1}{2}(-1.2)$ -0.6	s.) $\frac{-\frac{4}{11}}{\frac{12}{13}}$ $-\frac{4}{11} \div \frac{12}{13}$ $-\frac{4}{11} \cdot \frac{13}{12}$ $-\frac{13}{33}$	

10. Evaluate the following expressions given $x = \frac{4}{5}$ and $y = -\frac{7}{8}$

A. $2x - y$

$$2\left(\frac{4}{5}\right) - \left(-\frac{7}{8}\right)$$

$$\frac{8}{5} - \left(-\frac{7}{8}\right)$$

$$\frac{8}{5} + \frac{7}{8}$$

$$\frac{64}{40} + \frac{35}{40}$$

$$\frac{99}{40}$$

$$2\frac{19}{40}$$

B. $x + y$

$$\frac{4}{5} + \left(-\frac{7}{8}\right)$$

$$\frac{32}{40} + \frac{-35}{40}$$

$$-\frac{3}{40}$$

6. A bank account starts with \$405.50 in total. A deposit was made for \$67.45 and then a withdrawal was made for \$108.54. What is the new amount in the account?

$$405.50 + 67.45 - 108.54$$

$$\boxed{\$364.41}$$

7. A pilot was flying his airplane at 20,000 feet and recorded the following elevations over the next hour: ~~-1000.2~~, ~~+2000.8~~, -500.5, ~~+1000.2~~, ~~-2000.8~~.

What was his final altitude at the end of the hour? Explain how you were able to find the new elevation without adding all six numbers.

$$20000 - 500.5$$

$$19499.5 \text{ feet}$$

I was able to cross out many of the addends because additive inverses sum to zero, leaving only -500.5.

8. Convert each fraction to a decimal using long division

A. $\frac{5}{6}$

$$\begin{array}{r} 0.8333\dots \\ 6 \overline{) 5.0000} \\ \underline{-48} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

$$\boxed{0.8\bar{3}}$$

B. $\frac{1}{8}$

$$\begin{array}{r} 0.125 \\ 8 \overline{) 1.000} \\ \underline{-8} \\ 20 \\ \underline{-16} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

$$\boxed{0.125}$$

C. $\frac{23}{4}$

$$\begin{array}{r} 5.75 \\ 4 \overline{) 23.00} \\ \underline{-20} \\ 30 \\ \underline{-28} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

$$\boxed{5.75}$$

9. If $-6x$ has a negative value, what are the possible values of x ? Express answer as an inequality.

$$\boxed{\text{A. } x > 0}$$

$$\text{B. } x < 0$$

$$\text{C. } x = 0$$

$$\text{D. } x > 100$$

Since -6 is negative, the only way that $-6x$ would be negative is if x were positive. A negative multiplied by a positive is negative.

10. Write 8.75 in two other ways using fractions

$$8 \frac{75}{100}$$

$$\boxed{8 \frac{3}{4}}$$

$$\boxed{\frac{35}{4}}$$