Date:_____ Name:_____

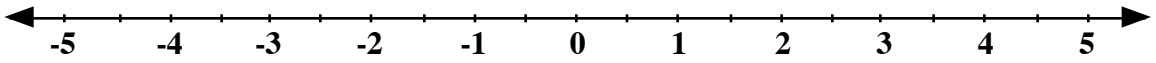
Unit 3
Rational Numbers

1. Circle which of the following numbers are equal to $-\frac{5}{4}$?

   $\frac{-5}{4}$, $1\frac{1}{4}$, $\frac{-5}{-4}$, $\frac{5}{-4}$, $-1\frac{1}{4}$, $-\frac{15}{12}$, $\frac{10}{8}$

2. On the number line mark each rational number on it. Order the numbers in descending order.

   $0.6, -0.\overline{3}, -2.5, -3.\overline{6}, 4\frac{1}{2}, -1\frac{3}{10}, -\frac{23}{5}, \frac{11}{3}$



   Order:_____

3. Replace each ☐ with < (less than), > (greater than) or = (equal to).

a. $-3.3\overline{2}$ ☐ -3.32

b. $-\frac{5}{6}$ ☐ $-\frac{6}{5}$

c. 2.25 ☐ $\frac{9}{4}$

d. $\frac{-9}{11}$ ☐ $\frac{4}{-5}$

e. $\frac{1}{-4}$ ☐ $-\frac{1}{3}$

f. $-\frac{13}{8}$ ☐ $-1\frac{5}{8}$

4. Determine each sum or difference. Simplify fractions.

a. $-\frac{3}{5}+\left(-\frac{2}{3}\right)$ = _____

b. $2\frac{3}{8}-\left(-1\frac{1}{4}\right)$ = _____

c. -4.1 - 3.5 = _____

d. -53.9 - (-19.4) = _____

e. 10.25 + (-12.5) = _____

f. $2\frac{1}{6}-1\frac{2}{9}$ = _____

5. Sarah has a balance of $12.34 in her account. Each time she makes a withdrawal, she is charged $1.75. Sarah makes three withdrawals of $20.50, $16.40 and $12.70. She also makes one deposit of $24.67. What is her balance now? Box your answer and write a sentence.

   Solve:

   Sentence: _____

6. Evaluate. Simplify fractions.

a. (-56.8)(-14.5) = _____

b. $\left(-\frac{1}{4}\right)\left(-\frac{3}{5}\right)$ = _____

c. $\left(-3\frac{1}{3}\right)\left(2\frac{3}{10}\right)$ = _____

d. $\frac{5}{6} \div \left(-\frac{2}{3}\right)$ = _____

e. $\left(-4\frac{2}{3}\right) \div \left(-1\frac{5}{4}\right)$ = _____

f. (-0.32) ÷ 1.6 = _____

7. The diameter of Pluto is $\frac{6}{17}$ the diameter of Mars. Mars is $\frac{17}{300}$ the diameter of Saturn. The diameter of Saturn is 120 000 km. What is the diameter of Pluto? Box your answer and write a sentence.

Solve:

Sentence: _____

8. Mr. Roberts teaches for $2\frac{1}{2}$ hours every day at Keyano College. He gets paid after he has taught at least 50 hours. After how many days will he get paid? Box your answer and write a sentence.

Solve:

Sentence: _____

9. At a party, $\frac{1}{3}$ of the people ate burgers, $\frac{1}{6}$ ate hot dogs, $\frac{1}{5}$ ate sandwiches, and the rest ate fried rice. If the total number of guests were 60 people, how many ate fried rice? Box your answer and write a sentence.

Solve:

Sentence: _____

10. Evaluate. Simplify fractions. Remember to box your answer.

a. $0.84 \times (-0.5) - (-2.3)$

b. $-3.1 + 4.5 \times (-2.9) - 7.2 \div (-3)$

c. $(-9.7) \times (-1.2) + 5.4 \div (-3.6)$

d. $\frac{1}{2} + \left(-\frac{3}{4}\right) \div \left(-\frac{1}{4}\right)$

e. $\frac{5}{6} + 2\frac{2}{5} \times \frac{8}{9} - 1\frac{5}{6}$

f. $\left(-\frac{1}{2}\right) + \frac{3}{5} \div \left[\frac{9}{10} - \left(-\frac{3}{5}\right)\right]$

g. $-5\frac{2}{5} \div \left[\left(-\frac{1}{8}\right) + 4\frac{1}{2}\right] + \left(-2\frac{2}{7}\right)$

h. $\left(-\frac{1}{2}\right)\left(-\frac{1}{2}\right) - \left(-\frac{2}{3}\right) \div \left[\frac{1}{3} + \left(-\frac{3}{12}\right)\right]$