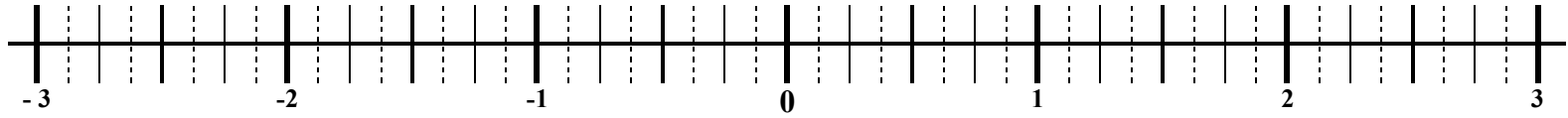


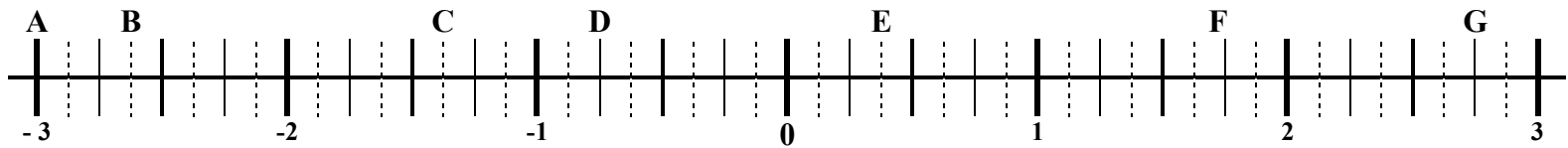
### Worksheet #1: Understanding Rational Numbers

1. Graph each rational number on the number line:     **A**     **B**     **C**     **D**     **E**     **F**     **G**  
 $0.5, -\frac{1}{4}, -\frac{-5}{-2}, 2\frac{3}{8}, -2.75, \frac{12}{4}, -\frac{30}{16}$



2. Identify the values represented by **A**, **B**, **C**, **D**, **E**, **F** and **G** in simplified fraction form if necessary.

**A.**                      **B.**                      **C.**                      **D.**                      **E.**                      **F.**                      **G.**



3. Simplify each rational number to a positive or negative fraction in lowest terms.

a)  $\frac{5}{-10}$                       b)  $\frac{10}{-15}$                       c)  $\frac{-12}{-30}$                       d)  $\frac{-6}{15}$

e)  $-\frac{-6}{11}$                       f)  $-\frac{54}{-81}$                       g)  $-\frac{-14}{-25}$                       h)  $-\frac{-15}{-35}$

4. Express each rational number as a positive or negative mixed number in lowest terms.

a)  $-\frac{8}{5}$                       b)  $\frac{-10}{-8}$                       c)  $-\frac{-17}{-2}$                       d)  $-\frac{-30}{4}$

5. Express each mixed number as an improper fraction in lowest terms.

a)  $-4\frac{1}{2}$

b)  $7\frac{1}{3}$

c)  $-8\frac{2}{5}$

d)  $-1\frac{6}{8}$

6. Compare each pair of rational numbers using the < or > signs.

a)  $\frac{7}{4}$       $\frac{-5}{4}$

b)  $-3.\bar{3}$       $-\frac{5}{3}$

c)  $\frac{8}{6}$       $-\frac{5}{-3}$

d)  $-0.7$       $\frac{-16}{20}$

e)  $-3\frac{1}{6}$       $\frac{110}{-30}$

f)  $-\frac{24}{20}$       $1\frac{3}{5}$

7. Write and use a mathematical expression to determine the rational number which is:

a) 18 more than  $-6$

b) 6 less than 3.5

c) 7 greater than  $-7.8$

d)  $\frac{1}{2}$  more than  $-\frac{7}{2}$

e)  $1\frac{1}{2}$  less than  $\frac{1}{3}$

f) 8.5 fewer than  $-4.9$

more



Answers

2. A  $-3$ , B  $-2\frac{5}{8}$ , C  $-1\frac{3}{8}$ , D  $-\frac{3}{4}$ , E  $\frac{3}{8}$ , F  $1\frac{3}{4}$ , G  $2\frac{3}{4}$

3. a)  $-\frac{1}{2}$  b)  $-\frac{2}{3}$  c)  $\frac{2}{5}$  d)  $-\frac{2}{5}$  e)  $\frac{6}{11}$  f)  $\frac{2}{3}$  g)  $-\frac{14}{25}$  h)  $-\frac{3}{7}$

4. a)  $-1\frac{3}{5}$  b)  $1\frac{1}{4}$  c)  $-8\frac{1}{2}$  d)  $7\frac{1}{2}$

5. a)  $-\frac{9}{2}$  b)  $\frac{22}{3}$  c)  $-\frac{42}{5}$  d)  $-\frac{7}{4}$

6. a) > b) < c) < d) > e) > f) <

7. a) 12 b)  $-2.5$  c)  $-0.8$  d)  $-3$  e)  $-1\frac{1}{6}$  f)  $-13.4$

**Worksheet #2: Multiplying and Dividing Rational Numbers**

Evaluate.

1.  $\frac{3}{5} \times \frac{5}{-8}$

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

3.  $-\frac{-2}{-3} \times \frac{-6}{7}$

4.  $-\frac{3}{8} \div \frac{-5}{-4}$

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

6.  $-2\frac{1}{4} \times \left(-3\frac{1}{3}\right)$

7.  $\frac{-4}{-5} \div (-4)$

8.  $1\frac{2}{3} \div \left(-2\frac{1}{5}\right)$

9.  $-\frac{2}{3} \times \frac{1}{-2} \times \frac{-6}{5}$

10.  $\left(\frac{-3}{4}\right)\left(1\frac{1}{5}\right) \div \left(-1\frac{4}{5}\right)$

11.  $\left(-1\frac{3}{4}\right) \div \left(-1\frac{1}{5}\right) \div \left(-\frac{5}{9}\right)$

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**Answers**

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1.  $-\frac{3}{8}$    2.  $-1\frac{1}{2}$    3.  $\frac{4}{7}$    4.  $-\frac{3}{10}$    5. 4   6.  $7\frac{1}{2}$    7.  $-\frac{1}{5}$    8.  $-\frac{25}{33}$    9.  $-\frac{2}{5}$    10.  $\frac{1}{2}$    11.  $-2\frac{5}{8}$