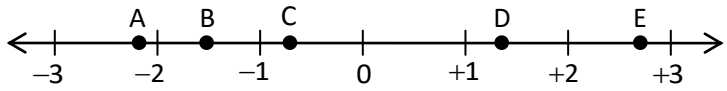
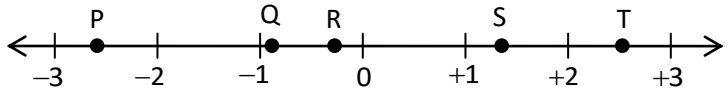
Comparing and Ordering Rational Numbers

1. Match each rational number to a point on the number line.



a) $-\frac{11}{5}$ b) $2\frac{4}{5}$ c) $-1\frac{2}{3}$ d) -0.8 e) $\frac{5}{4}$

2. Which point on the number line matches each rational number?



a) $-\frac{8}{3}$ b) $1\frac{3}{8}$ c) $\frac{12}{5}$ d) -0.311 e) $-\frac{8}{9}$

3. Compare the following on the number line and then write in descending order.

$1\frac{5}{8}, \quad -1\frac{2}{3}, \quad -0.2, \quad 1.8, \quad -\frac{4}{5}$

4. Compare the following on the number line and then write in ascending order.

$-\frac{3}{8}, \quad 1.\overline{7}, \quad \frac{11}{6}, \quad -\frac{1}{2}, \quad -1$

5. Write each fraction as an equivalent fraction.

a. $\frac{6}{10}$ b. $-\frac{3}{4}$ c. $\frac{-5}{2}$ d. $\frac{15}{-4}$

6. Write each rational number as an equivalent fraction.

a. $-\frac{1}{5}$ b. $\frac{9}{-4}$ c. $\frac{-7}{-6}$ d. $-\left(\frac{-6}{-7}\right)$

7. For the following pairs of rational numbers, determine which value in each pair is larger.

a. $-\frac{1}{3}, \quad \frac{-2}{3}$ b. $-\frac{3}{5}, \quad \frac{3}{5}$ c. $-\frac{9}{10}, \quad -\frac{8}{10}$ d. $-3\frac{1}{8}, \quad -3\frac{1}{4}$

8. For the following pairs of rational numbers, determine which value in each pair is smaller.

a. $\frac{5}{8}, \quad \frac{7}{9}$ b. $-\frac{3}{5}, \quad -\frac{4}{5}$ c. $-5\frac{3}{4}, \quad -5\frac{4}{5}$ d. $-\frac{3}{10}, \quad -\frac{2}{5}$

9. Find a decimal between each of the pairs of rational numbers.

a. $\frac{7}{8}, \frac{7}{9}$ b. $-\frac{3}{5}, -\frac{4}{5}$ c. $\frac{1}{2}, \frac{5}{8}$ d. $-\frac{13}{20}, -\frac{3}{5}$

10. Find a fraction between each pair of rational numbers.

a. 0.3, 0.4 b. 0, -0.1 c. -0.84, -0.86 d. -0.42, -0.43

11. Find a mixed number between each pair of rational numbers.

a. 0, 1.5 b. 1.6, 1.8 c. -4.3, -4.4 d. -3.01, -3.03

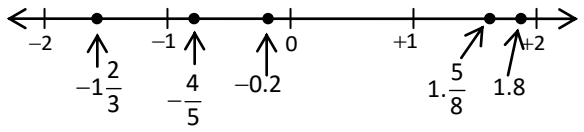
12. Replace each $\square$ with $>, <$, or $=$ to make each statement true.

a. $\frac{-8}{12} \square \frac{2}{-3}$ b. $-0.\overline{7} \square -\frac{4}{5}$ c. $-1\frac{5}{8} \square -1\frac{4}{7}$ d. $-4.25 \square -4\frac{1}{5}$

Answers

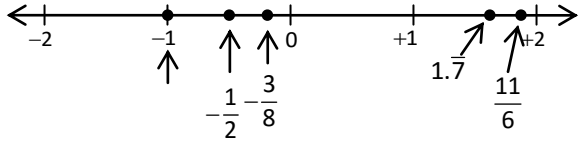
1. a) A b) E c) B d) C e) D 2. a) P b) S c) T d) R e) Q

3.



Descending order: $1.8,\ 1\frac{5}{8},\ -0.2,\ -\frac{4}{5},\ -1\frac{2}{3}$

4.



Ascending order: $-1,\ -\frac{1}{2},\ -\frac{3}{8},\ 1.\overline{7},\ \frac{11}{6}$

5. Your answer may vary. These are some examples. a) $\frac{3}{5}$ b) $-\frac{6}{8}$ c) $-\frac{10}{4}$ d) $\frac{30}{-8}$

6. Your answer may vary. These are some examples. a) $-\frac{2}{10}$ b) $\frac{18}{-8}$ c) $\frac{14}{12}$ d) $-\frac{12}{14}$

7. a) $-\frac{1}{3}$ b) $\frac{3}{5}$ c) $-\frac{8}{10}$ d) $3\frac{1}{4}$ 8. a) $\frac{5}{8}$ b) $-\frac{4}{5}$ c) $-5\frac{4}{5}$ d) $-\frac{2}{5}$

9. Your answer may vary. These are some examples. a) 0.8 b) -0.7 c) 0.6 d) -0.61

10. Your answer may vary. These are some examples. a) $\frac{7}{20}$ b) $-\frac{1}{20}$ c) $-\frac{17}{20}$ d) $-\frac{17}{40}$

11. Your answer may vary. These are some examples. a) $1\frac{1}{4}$ b) $1\frac{7}{10}$ c) $-4\frac{7}{20}$ d) $-3\frac{1}{50}$

12. a) $\frac{-8}{12} = \frac{2}{-3}$ b) $-0.\overline{7} > -\frac{4}{5}$ c) $-1\frac{5}{8} < -1\frac{4}{7}$ d) $-4.25 < -4\frac{1}{5}$