Equivalent Fractions

1) For each of the following, find the number that should replace the "?"to make the fractions equivalent

a) $\frac{5}{6} = \frac{15}{?}$ b) $\frac{3}{4} = \frac{?}{28}$ c) $\frac{12}{15} = \frac{4}{?}$

d) $\frac{27}{39} = \frac{?}{13}$ e) $\frac{25}{30} = \frac{15}{?}$ f) $\frac{48}{60} = \frac{28}{?}$

2) Are the following statements true or false?

a) $\frac{3}{4} = \frac{9}{12}$ b) $\frac{1+3}{1+5} = \frac{3}{5}$

c) $\frac{9}{15} = \frac{6}{10}$ d) $\frac{2\times3}{2\times5} = \frac{3}{5}$

e) $\frac{6}{10}$ is twice as big as $\frac{3}{5}$ f) $\frac{6}{10}$ is the same size as $\frac{3}{5}$

3) Simplify these fractions

a) $\frac{15}{20}$ b) $\frac{22}{55}$ c) $\frac{36}{54}$ d) $\frac{48}{72}$ e) $\frac{50}{85}$

f) $\frac{132}{144}$ g) $\frac{0.3}{90}$ h) $\frac{0.12}{6}$ i) $\frac{280}{35}$ j) $\frac{12}{0.4}$

4) Place one of < , > or = in between these pairs of fractions

a) $\frac{4}{5}$ and $\frac{2}{3}$ b) $\frac{8}{11}$ and $\frac{7}{10}$ c) $\frac{7}{12}$ and $\frac{11}{18}$

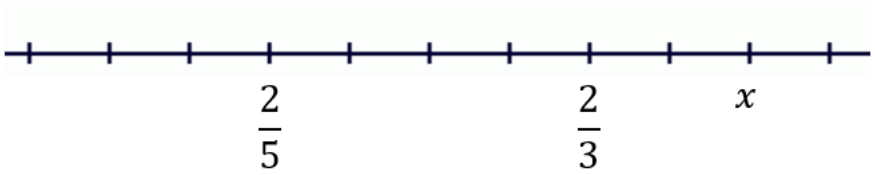
d) $\frac{14}{21}$ and $\frac{18}{27}$ e) $\frac{25}{28}$ and $\frac{15}{16}$

5) Find a fraction that will not simplify between each pair of values below

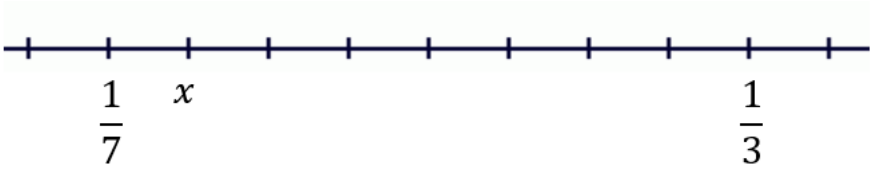
a) $\frac{7}{8}$ and 1 b) $\frac{1}{4}$ and $\frac{1}{3}$ c) $\frac{11}{12}$ and $\frac{12}{13}$

6) For each number line identify the missing fraction

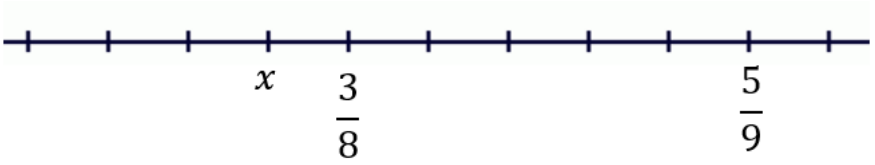
a)



b)



c)



Challenge

1) Using all the digits from 1 to 9 inclusive, Bob wrote down a fraction which had four digits in the numerator and five digits in the denominator. He then noticed that it cancelled down to one half. What was the numerator of his fraction?

2) How many fractions between $\frac{1}{6}$ and $\frac{1}{3}$ inclusive can be written with a denominator of 15?

3) The longest tennis match in history was between John Isner and Nicolas Mahut. It lasted for 11 hours 5 minutes and the fifth set lasted for 8hours 11 minutes. Approximately what fraction of the whole match was taken up by the fifth set?

$$\frac{1}{5} \quad \frac{2}{5} \quad \frac{3}{5} \quad \frac{3}{4} \quad \frac{9}{10}$$

4) Find the integer x

So that $\frac{x}{9}$ lies between $\frac{71}{7}$ and $\frac{113}{11}$

Answers

1a) 18 b) 21 c) 5 d) 9 e) 18 f) 35 2a) T b) F c) T d) T e) F f) T

3a) $\frac{3}{4}$ b) $\frac{2}{5}$ c) $\frac{2}{3}$ d) $\frac{2}{3}$ e) $\frac{10}{17}$ f) $\frac{11}{12}$ g) $\frac{1}{300}$ h) $\frac{1}{50}$ i) 8 j) 30

4a) > b) > c) < d) = e) <