

Exercises of Rational numbers

1) Place the following fractions on the number line:

a) $\frac{-4}{3}$

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

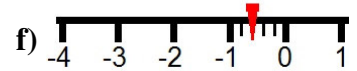
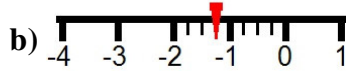
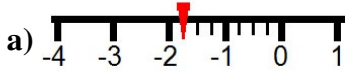
c) $\frac{7}{5}$

d) $\frac{-7}{2}$

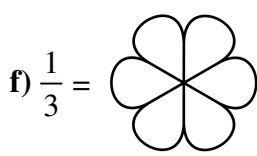
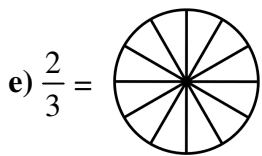
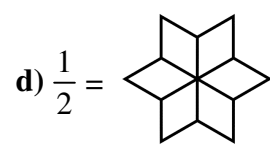
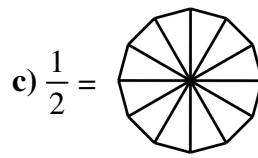
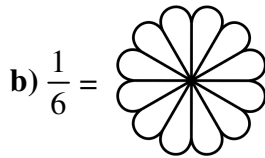
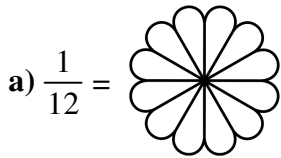
e) $\frac{-3}{4}$

f) $\frac{9}{5}$

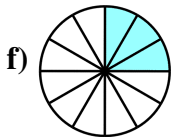
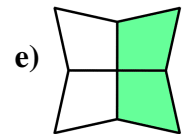
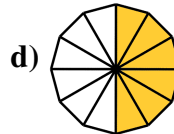
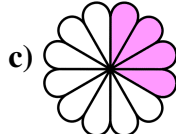
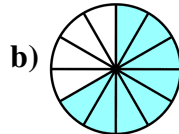
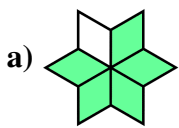
2) Identify the following fractions on the number line:



3) Fill in the shapes so that they match the given fraction:



4) What fraction represents the shaded part of the following shapes?



5) Simplify the following fractions:

a) $\frac{198}{270}$

b) $\frac{96}{216}$

c) $\frac{40}{96}$

d) $\frac{10}{20}$

e) $\frac{30}{57}$

f) $\frac{10}{18}$

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6) Sort the following sets of fractions in ascending order:

a) $\frac{8}{9}, \frac{1}{3}, \frac{10}{9}, \frac{1}{2}, \frac{7}{9}$

b) $\frac{7}{6}, \frac{3}{2}, \frac{5}{3}, \frac{5}{6}, \frac{1}{2}$

c) $\frac{3}{5}, \frac{3}{10}, \frac{7}{10}, \frac{13}{30}, \frac{1}{6}, \frac{8}{15}$

d) $\frac{13}{12}, \frac{1}{3}, \frac{2}{3}, \frac{1}{2}$

e) $\frac{2}{3}, \frac{5}{6}, \frac{1}{2}, \frac{1}{3}$

f) $\frac{1}{3}, \frac{3}{8}, \frac{1}{2}, \frac{5}{12}, \frac{1}{6}$

7) Calculate and simplify the following expressions:

a) $\frac{4}{5} + \frac{1}{3} + \frac{7}{9}$

b) $20 + \frac{7}{3}$

c) $-3 - \frac{4}{3} + \frac{3}{11}$

d) $\frac{28}{11} + 1$

e) $-\frac{1}{2} + \frac{19}{7} - 6$

f) $\frac{1}{2} + \frac{5}{8}$

8) Calculate and simplify the following expressions:

a) $-\frac{9}{2} + 2 \times \left(-\frac{5}{6}\right)$

b) $-\frac{7}{5} - \frac{2}{3} : 3$

c) $\frac{3}{4} \times \left(-\frac{7}{5} + \frac{17}{11}\right)$

d) $3 : \left(\frac{15}{2} + 2\right)$

e) $\frac{19}{2} - \frac{8}{9} \times \left(9 + \frac{24}{7}\right)$

f) $-\frac{2}{5} + 7 : \left(\frac{5}{8} + 2\right)$

9) Convert the following values to fractions:

a) $7.5\overline{17}$

b) $17.\overline{916}$

c) 3.565

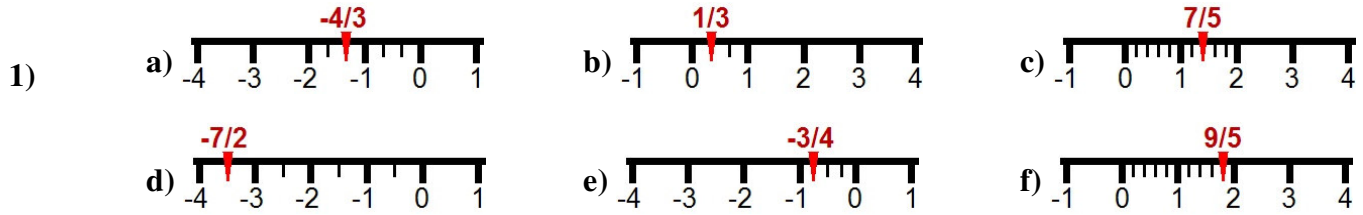
d) $1.939\overline{32}$

e) $5.\overline{298}$

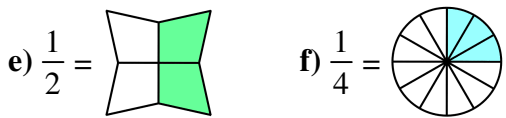
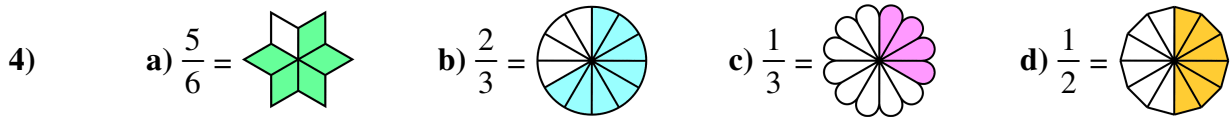
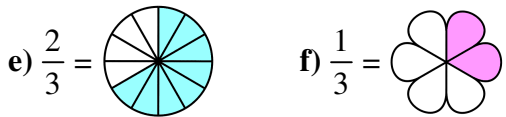
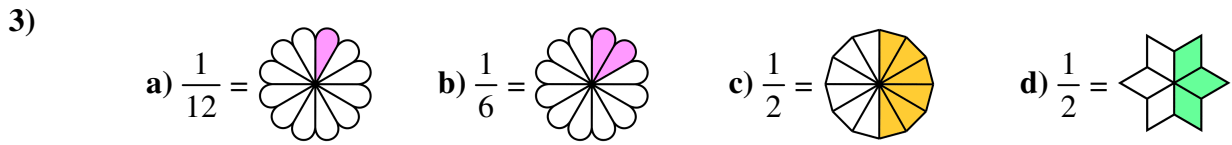
f) 28.87

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Answers:



2) a) $\frac{-7}{4}$ b) $\frac{-5}{4}$ c) $\frac{3}{2}$ d) $\frac{12}{5}$ e) $\frac{7}{5}$ f) $\frac{-3}{5}$



5) a) $\frac{11}{15}$ b) $\frac{4}{9}$ c) $\frac{5}{12}$ d) $\frac{1}{2}$ e) $\frac{10}{19}$
 f) $\frac{5}{9}$

6) a) $\frac{1}{3} < \frac{1}{2} < \frac{7}{9} < \frac{8}{9} < \frac{10}{9}$ b) $\frac{1}{2} < \frac{5}{6} < \frac{7}{6} < \frac{3}{2} < \frac{5}{3}$
 c) $\frac{1}{6} < \frac{3}{10} < \frac{13}{30} < \frac{8}{15} < \frac{3}{5} < \frac{7}{10}$ d) $\frac{1}{3} < \frac{1}{2} < \frac{2}{3} < \frac{13}{12}$
 e) $\frac{1}{3} < \frac{1}{2} < \frac{2}{3} < \frac{5}{6}$ f) $\frac{1}{6} < \frac{1}{3} < \frac{3}{8} < \frac{5}{12} < \frac{1}{2}$

7) a) $\frac{86}{45}$ b) $\frac{67}{3}$ c) $\frac{-134}{33}$ d) $\frac{39}{11}$
 e) $\frac{-53}{14}$ f) $\frac{9}{8}$

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8) a) $\frac{-37}{6}$ b) $\frac{-73}{45}$ c) $\frac{6}{55}$ d) $\frac{6}{19}$ e) $\frac{-65}{42}$

f) $\frac{34}{15}$

9) a) $\frac{3721}{495}$ b) $\frac{17899}{999}$ c) $\frac{713}{200}$ d) $\frac{191993}{99000}$

e) $\frac{5293}{999}$ f) $\frac{2887}{100}$