

# Grade 7 Diagnostic

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1. List three fractions equivalent (equal) to each fraction.

a)  $\frac{2}{5}$

b)  $\frac{6}{12}$

c)  $\frac{36}{100}$

2. Use a greater than (>) or less than (<) sign to make these statements true.

a)  $\frac{2}{5} \square \frac{3}{10}$

b)  $\frac{3}{7} \square \frac{3}{8}$

c)  $\frac{3}{4} \square \frac{5}{6}$

d)  $\frac{5}{4} \square \frac{4}{5}$

e)  $2\frac{3}{4} \square 2\frac{4}{7}$

f)  $2\frac{1}{5} \square 1\frac{5}{4}$

3. Order these values from least to greatest:

$$\frac{4}{8} \quad \frac{2}{3} \quad \frac{3}{7} \quad \frac{6}{4} \quad \frac{7}{10} \quad 1\frac{1}{4}$$

4. Draw a picture to show why each statement is true:

a)  $\frac{3}{7} + \frac{3}{7} = \frac{6}{7}$

b)  $\frac{1}{4} + \frac{2}{3} = \frac{11}{12}$

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5. Add each pair of numbers.

a)  $\frac{3}{7} + \frac{2}{7}$

b)  $\frac{1}{4} + \frac{1}{2}$

c)  $\frac{3}{4} + \frac{2}{5}$

d)  $\frac{2}{3} + \frac{5}{9}$

e)  $\frac{5}{4} + 2\frac{1}{3}$

f)  $3\frac{5}{8} + 2\frac{2}{3}$

6. Draw a picture to show why each statement is true:

a)  $\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$

b)  $\frac{7}{8} - \frac{1}{4} = \frac{5}{8}$

7. Subtract each pair of numbers:

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

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

c)  $\frac{5}{6} - \frac{1}{4}$

d)  $\frac{5}{3} - \frac{3}{5}$

e)  $3 - 1\frac{3}{7}$

f)  $4\frac{3}{5} - 1\frac{3}{4}$

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8. Draw a picture to show  $4 \times \frac{1}{3}$ .

9. Multiply each pair of numbers.

a)  $2 \times \frac{2}{3}$

b)  $4 \times \frac{3}{5}$

c)  $\frac{1}{4} \times 3$

d)  $3 \times \frac{1}{6}$

10. Draw a picture to show  $3 \div \frac{1}{2}$ .

11. Divide each pair of numbers.

a)  $2 \div \frac{3}{4}$

b)  $4 \div \frac{1}{3}$

c)  $3 \div \frac{3}{5}$

d)  $2 \div \frac{4}{7}$

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## Answers:

1. Answers may vary. For example:

$$a) \frac{4}{10}, \frac{6}{15}, \frac{8}{20}, \frac{20}{50}$$

$$b) \frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{12}{24}$$

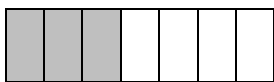
$$c) \frac{9}{25}, \frac{18}{50}, \frac{72}{200}, \frac{360}{1000}$$

2. a)  $\frac{2}{5} > \frac{3}{10}$    b)  $\frac{3}{7} > \frac{3}{8}$    c)  $\frac{3}{4} < \frac{5}{6}$    d)  $\frac{5}{4} > \frac{4}{5}$    e)  $2\frac{3}{4} > 2\frac{4}{7}$    f)  $2\frac{1}{5} < 1\frac{5}{4}$

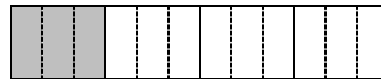
3.  $\frac{3}{7}, \frac{4}{8}, \frac{2}{3}, \frac{7}{10}, 1\frac{1}{4}, \frac{6}{4}$

4. Answers may vary. For example:

a)



b)



5. a)  $\frac{5}{7}$    b)  $\frac{3}{4}$    c)  $\frac{23}{20}$  or  $1\frac{3}{20}$    d)  $\frac{11}{9}$  or  $1\frac{2}{9}$    e)  $3\frac{7}{12}$    f)  $6\frac{7}{24}$

6. Answers may vary. For example:

a)

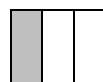
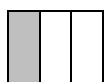
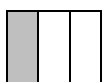
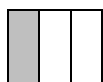


b)



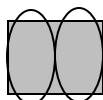
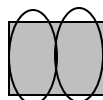
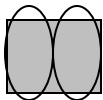
7. a)  $\frac{3}{8}$    b)  $\frac{4}{15}$    c)  $\frac{7}{12}$    d)  $\frac{16}{15}$  or  $1\frac{1}{15}$    e)  $\frac{11}{7}$  or  $1\frac{4}{7}$    f)  $2\frac{17}{20}$

8. Answers may vary. For example:



9. a)  $\frac{4}{3}$    b)  $\frac{12}{5}$  or  $2\frac{2}{5}$    c)  $\frac{3}{4}$    d)  $\frac{1}{2}$

10. Answers may vary. For example:



11. a)  $\frac{8}{3}$    b) 12   c) 5   d)  $\frac{7}{2}$