Module 2: Working with Fractions and Mixed Numbers
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Answer the following questions.

For Exercises 1 – 6, represent each fraction as an equivalent fraction with the indicated denominator.

1) $\frac{3}{4}, 16$ $\frac{12}{16}$

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

3) $\frac{4}{10}, 5$ $\frac{2}{5}$

4) $\frac{12}{16}, 4$ $\frac{3}{4}$

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

6) $\frac{1}{2}, 10$ $\frac{5}{10}$

7) Where is $\frac{0}{6}$ on the number line?

It is at 0.

8) Where is $\frac{8}{8}$ on the number line?

It is at 1.

For Exercises 9 – 12, use the fraction number line diagram to re-write each fraction with the same denominator. Then evaluate the expression.

9) $\frac{3}{5}-\frac{2}{10}$ $\frac{2}{5}$

10) $\frac{11}{16}-\frac{3}{8}$ $\frac{5}{16}$

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

12) $\frac{5}{6}-\frac{2}{3}$ $\frac{1}{6}$

13) Can $\frac{1}{3}$ be written as a fraction with a denominator of 16? Why or why not?

No. Three is not a factor of 16.

14) How do we represent the whole number 1 as a fraction with a denominator of 12? $\frac{12}{12}$

For Exercises 15 – 22, identify the LCD and then re-write each fraction as an equivalent fraction having the LCD.

15) $\frac{2}{3}, \frac{5}{6}$

LCD = 12; $\frac{8}{12}; \frac{10}{12}$

16) $\frac{3}{4}, \frac{5}{8}$

LCD = 8; $\frac{6}{8}; \frac{5}{8}$

17) $\frac{1}{9}, \frac{2}{3}$

LCD = 9; $\frac{1}{9}; \frac{6}{9}$

18) $\frac{2}{7}, \frac{2}{21}$

LCD = 21; $\frac{6}{21}; \frac{2}{21}$

19) $\frac{5}{6}, \frac{1}{4}, \frac{3}{8}$

LCD = 24; $\frac{20}{24}; \frac{6}{24}; \frac{9}{24}$

20) $\frac{1}{2}, \frac{2}{3}, \frac{2}{5}$

LCD = 30; $\frac{15}{30}; \frac{20}{30}; \frac{12}{30}$

21) $\frac{3}{8}, \frac{4}{5}, \frac{7}{10}$

LCD = 40; $\frac{15}{40}; \frac{32}{40}; \frac{28}{40}$

22) $\frac{9}{14}, \frac{3}{4}, \frac{6}{7}$

LCD = 28; $\frac{18}{28}; \frac{21}{28}; \frac{24}{28}$

23) Where is the fraction $\frac{3}{2}$ on the number line?

It is at $1\frac{1}{2}$

24) Where is the fraction $\frac{7}{3}$ on the number line?

It is at $2\frac{1}{3}$

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For Exercises 25 – 28, find the value of each expression.

25) $\frac{2}{3}-\frac{1}{6}+\frac{3}{2}$ 2

26) $\frac{3}{4}-\frac{2}{3}+\frac{1}{6}$ $\frac{1}{4}$

27) $\frac{9}{7}-\frac{1}{2}-\frac{3}{4}$ $\frac{1}{28}$

28) $\frac{13}{8}-\frac{1}{5}-\frac{3}{4}$ $\frac{27}{40}$

For Exercises 29 – 38, evaluate each expression.

29) $2\frac{1}{3}+1\frac{1}{4}$ $3\frac{1}{2}$

30) $3\frac{7}{8}-1\frac{3}{4}$ $2\frac{1}{8}$

31) $3\frac{4}{5}+1\frac{5}{6}$ $5\frac{19}{30}$

32) $4\frac{1}{3}-2\frac{4}{7}$ $1\frac{16}{21}$

33) $6\frac{7}{8}+5\frac{7}{10}$ $12\frac{23}{40}$

34) $8\frac{3}{16}-4\frac{5}{8}$ $3\frac{9}{16}$

35) $7\frac{1}{2}+6\frac{9}{10}$ $14\frac{2}{5}$

36) $11\frac{3}{4}-5\frac{11}{16}$ $6\frac{1}{16}$

37) $5\frac{4}{5}+4\frac{5}{6}-6\frac{2}{3}$ $3\frac{29}{30}$

38) $2\frac{2}{3}-1\frac{7}{8}+9\frac{1}{4}$ $10\frac{1}{24}$

For Exercises 39 – 44, evaluate each expression by first changing the mixed numbers to improper fractions. Write your final answer in mixed number format.

39) $3\frac{1}{10}+2\frac{3}{8}$ $5\frac{19}{40}$

40) $4\frac{5}{6}-2\frac{2}{3}$ $2\frac{1}{6}$

41) $6\frac{3}{8}+4\frac{1}{5}$ $10\frac{23}{40}$

42) $2\frac{1}{3}-1\frac{1}{4}$ $1\frac{1}{12}$

43) $6-3\frac{7}{10}+2\frac{4}{5}$ $5\frac{1}{10}$

44) $8\frac{3}{10}-5+7$ $10\frac{3}{10}$