Name _____ Date _____ Class _____

SKILL 7: Subtracting Mixed Numbers with Unlike Denominators

To subtract mixed numbers with unlike denominators, first write equivalent fractions with a common denominator. Sometimes you will need to rename before you can subtract the fractions.

Example 1

Find $3\frac{5}{8} - 1\frac{1}{4}$ in simplest form.

Rewrite the fractions using their LCD, 8.

$$3\frac{5}{8} \rightarrow 3\frac{5}{8}$$
$$-\,1\frac{1}{4} \rightarrow -\,1\frac{2}{8}$$

Subtract the fractions.

$$3\frac{5}{8}$$
$$-\,1\frac{2}{8}$$
$$\frac{3}{8}$$

Subtract the whole numbers.

$$3\frac{5}{8}$$
$$-\,1\frac{2}{8}$$
$$2\frac{3}{8}$$

So, $3\frac{5}{8} - 1\frac{1}{4} = 2\frac{3}{8}$.

Example 2

Find $8\frac{1}{3} - 2\frac{5}{6}$ in simplest form.

Rewrite the fractions using their LCD, 6.

$$8\frac{1}{3} \rightarrow 8\frac{2}{6}$$
$$-\,2\frac{5}{6} \rightarrow -\,2\frac{5}{6}$$

Since $\frac{2}{6} < \frac{5}{6}$, rename $8\frac{2}{6}$ as $7\frac{6}{6} + \frac{2}{6}$, or $7\frac{8}{6}$.

$$7\frac{8}{6}$$
$$-\,2\frac{5}{6}$$

Subtract the fractions and whole numbers. Write the difference in simplest form.

$$7\frac{8}{6}$$
$$-\,2\frac{5}{6}$$
$$5\frac{3}{6} = 5\frac{1}{2}$$

So, $8\frac{1}{3} - 2\frac{5}{6} = 5\frac{1}{2}$.

Guided Practice

Find each difference in simplest form.

1. $6\frac{1}{5} \rightarrow 6\frac{\square}{10} \rightarrow 5\frac{\square}{10}$

$-\,3\frac{7}{10} \rightarrow -\,3\frac{7}{10} \rightarrow -\,3\frac{7}{10}$

2. $7\frac{1}{5} \rightarrow 7\frac{\square}{15} \rightarrow 6\frac{\square}{15}$

$-\,2\frac{2}{3} \rightarrow -\,2\frac{\square}{15} \rightarrow -\,2\frac{\square}{15}$

3. $5\frac{7}{8} - 2\frac{3}{4} =$ _____

4. $6\frac{1}{6} - 3\frac{2}{3} =$ _____

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SKILL 7: Practice

Find each difference in simplest form.

1. $5\frac{2}{7} - 4\frac{2}{3}$

2. $15\frac{7}{10} - 12\frac{2}{5}$

3. $7\frac{1}{3} - 4\frac{1}{18}$

4. $2\frac{3}{8} - 2\frac{5}{16}$

5. $8\frac{5}{8} - 4\frac{7}{24}$

6. $10\frac{1}{3} - 4\frac{5}{6}$

7. $9\frac{2}{3} - 1\frac{1}{10}$

8. $12\frac{3}{8} - 8\frac{5}{6}$

9. $5\frac{1}{6} - 2\frac{3}{5}$

10. $9\frac{1}{10} - 7\frac{2}{5}$

11. $3\frac{1}{2} - 1\frac{5}{6}$

12. $3\frac{2}{3} - 1\frac{8}{15}$

13. $10\frac{4}{5} - 1\frac{14}{25}$

14. $8\frac{4}{7} - 1\frac{1}{2}$

15. $2\frac{1}{2} - 1\frac{19}{21}$

16. $12\frac{3}{4} - 5\frac{1}{7}$

17. $7\frac{4}{5} - 2\frac{5}{8}$

18. $10\frac{17}{21} - 1\frac{5}{7}$

19. $10\frac{7}{18} - 4\frac{1}{3}$

20. $15\frac{11}{14} - 14\frac{1}{7}$

Solve.

21. Jessie baked $6\frac{1}{2}$ dozen cookies for a bake sale, and $4\frac{2}{3}$ dozen of the cookies were sold. How many dozen cookies were left over? _____

22. Find $6\frac{2}{3} - 3\frac{1}{4}$ in simplest form. *Skill 7*

A $3\frac{5}{12}$ C $4\frac{5}{12}$

B $3\frac{7}{12}$ D $4\frac{7}{12}$

23. Which of the following is the best estimate of $2\frac{10}{11} + 3\frac{6}{7}$? *Skill 1*

F 5 H 7

G 6 J 8