Module Test B — Module 6

Evaluate each expression.

1. $\dfrac{7}{8} - \dfrac{3}{8}$

$\dfrac{1}{2}$

2. $\dfrac{7}{18} + \dfrac{13}{18}$

$1\dfrac{1}{9}$

3. $\dfrac{2}{5} + \dfrac{1}{3}$

$\dfrac{11}{15}$

4. $\dfrac{3}{4} - \dfrac{4}{18}$

$\dfrac{19}{36}$

5. $6\dfrac{3}{4} - 4\dfrac{7}{12}$

$2\dfrac{1}{6}$

6. $7\dfrac{1}{8} + 6\dfrac{3}{5}$

$13\dfrac{29}{40}$

7. A bike race is 10 kilometers long. Alan has biked $7\dfrac{9}{10}$ kilometers so far. How much farther does he have to bike to finish the race?

$2\dfrac{1}{10}$ **kilometers**

Circle the correct answer for each problem.

8. What is the reciprocal of 6?

    a. -6   b. 0   c. $\dfrac{1}{6}$ d. $\dfrac{6}{1}$

$$\mathbf{\dfrac{1}{6}}$$

9. Which subtraction problem would require regrouping?

    a. $6\dfrac{1}{3} - 2\dfrac{2}{9}$ b. $8\dfrac{2}{3} - \dfrac{1}{3}$ c. $2\dfrac{4}{7} - 2\dfrac{2}{7}$ d. $4\dfrac{8}{15} - \dfrac{7}{10}$

$$\mathbf{4\dfrac{8}{15} - \dfrac{7}{10}}$$

10. What is the least common denominator of $\dfrac{3}{4}$ and $\dfrac{13}{14}$?

    a. 14   b. 28   c. 42   d. 56

$$\mathbf{28}$$

11. Which has a different answer than the others?

    a. $\dfrac{1}{10} \div 4$ b. $1 \div \dfrac{5}{2}$ c. $\dfrac{4}{5} \div 2$ d. $\dfrac{2}{3} \times \dfrac{3}{5}$

$$\mathbf{\dfrac{1}{10} \div 4}$$

Evaluate.

12. $\dfrac{1}{4} \times \dfrac{7}{8}$

$$\mathbf{\dfrac{7}{32}}$$

13. $\dfrac{3}{14} \times \dfrac{2}{3}$

$$\mathbf{\dfrac{1}{7}}$$

14. $8 \div 1\dfrac{1}{4}$

$$\mathbf{6\dfrac{2}{5}}$$

15. $3\dfrac{5}{6} \times 2\dfrac{1}{4}$

$$\mathbf{8\dfrac{5}{8}}$$

16. $5\dfrac{2}{5} \times \dfrac{5}{9}$

$$\mathbf{3}$$

17. $7\dfrac{1}{2} \div 3\dfrac{1}{3}$

$$\mathbf{2\dfrac{1}{4}}$$

18. Nine friends evenly divided $3\frac{3}{4}$ pizzas. They were still hungry after that, so they shared one more whole pizza. How much pizza did each friend eat?

$$\frac{19}{36} \text{ of a pizza}$$

19. Show how to use the common denominator method to find $\frac{3}{4} \div \frac{1}{6}$.

Write equivalent fractions with a common denominator of 12 and divide the numerators.

$$\frac{3}{4} \div \frac{1}{6} = \frac{9}{12} \div \frac{2}{12}$$

$$9 \div 2 = 4\frac{1}{2}$$

20. Use $2\frac{5}{6} + 1\frac{5}{12}$ to explain why the whole number part of the sum of two mixed numbers is not always the sum of the whole number parts in the addends.

The sum of the whole number parts in the addends is three because 2 + 1 = 3. However, the whole number part in the sum is four because the sum of the fraction parts is an improper fraction. When the improper fraction is written as a mixed number, there is another whole.

$$2\frac{5}{6} + 1\frac{5}{12} = 2\frac{10}{12} + 1\frac{5}{12} = 3\frac{15}{12}$$

$$= 3 + \frac{15}{12} = 3 + 1\frac{3}{12} = 3 + 1\frac{1}{4} = 4\frac{1}{4}$$