

NAME: _____

DATE: _____

HOUR: _____

FRACTION SHEET

Please do **NOT** write on this paper.

Use only the front of your loose-leaf.

Do your work as we have done in class.

CALCULATOR **NOT** ALLOWED.

NO WORK = NO CREDIT

WORK IN A SINGLE COLUMN

USE PENCIL ONLY.

Skip lines between problems.

Always include the original problem.

Show all of your work, all of the time

Before doing work on a page, print Title & Name, Date, Hour on that page.

Skill 17 Adding and Subtracting Fractions

Add or subtract. Write the answer in lowest terms.

1. $\frac{5}{9} + \frac{2}{9}$
2. $\frac{1}{5} + \frac{4}{5}$
3. $\frac{11}{20} + \frac{5}{20}$
4. $\frac{2}{5} + \frac{1}{5}$
5. $\frac{3}{7} + \frac{5}{7}$
6. $\frac{13}{100} + \frac{3}{100}$
7. $\frac{11}{15} - \frac{8}{15}$
8. $\frac{11}{12} - \frac{5}{12}$
9. $\frac{23}{24} - \frac{11}{24}$
10. $\frac{7}{8} - \frac{3}{8}$
11. $\frac{9}{10} - \frac{3}{10}$
12. $\frac{29}{50} - \frac{9}{50}$
13. $\frac{91}{100} - \frac{31}{100}$
14. $\frac{5}{6} - \frac{1}{6}$
15. $\frac{3}{16} + \frac{3}{8}$
16. $\frac{7}{20} + \frac{3}{4}$
17. $\frac{7}{9} + \frac{11}{12}$
18. $\frac{3}{4} + \frac{3}{10}$
19. $\frac{7}{45} + \frac{11}{90}$
20. $\frac{1}{2} + \frac{4}{9}$
21. $\frac{6}{7} - \frac{3}{8}$
22. $\frac{4}{5} - \frac{3}{8}$
23. $\frac{9}{10} - \frac{15}{15}$
24. $\frac{7}{10} - \frac{1}{50}$
25. $\frac{11}{50} - \frac{1}{30}$
26. $\frac{5}{6} - \frac{5}{8}$

The fractions have a common denominator. Add the numerators.

$$\begin{array}{r} \frac{5}{7} \\ + \frac{2}{7} \\ \hline \frac{7}{7} = 1 \end{array}$$

The fractions have a common denominator. Subtract the numerators.

$$\begin{array}{r} \frac{5}{9} \\ - \frac{1}{9} \\ \hline \frac{4}{9} \end{array}$$

10. $\frac{7}{8} - \frac{3}{8}$
11. $\frac{9}{10} - \frac{3}{10}$
12. $\frac{29}{50} - \frac{9}{50}$
13. $\frac{91}{100} - \frac{31}{100}$
14. $\frac{5}{6} - \frac{1}{6}$
15. $\frac{3}{16} + \frac{3}{8}$
16. $\frac{7}{20} + \frac{3}{4}$
17. $\frac{7}{9} + \frac{11}{12}$
18. $\frac{3}{4} + \frac{3}{10}$
19. $\frac{7}{45} + \frac{11}{90}$
20. $\frac{1}{2} + \frac{4}{9}$
21. $\frac{6}{7} - \frac{3}{8}$
22. $\frac{4}{5} - \frac{3}{8}$
23. $\frac{9}{10} - \frac{15}{15}$
24. $\frac{7}{10} - \frac{1}{50}$
25. $\frac{11}{50} - \frac{1}{30}$
26. $\frac{5}{6} - \frac{5}{8}$

When the fractions have different denominators, rewrite them as equivalent fractions having the least common denominator. Then add or subtract.

$$\frac{7}{12} + \frac{3}{20} = \frac{35}{60} + \frac{9}{60} = \frac{44}{60} = \frac{11}{15}$$

$$\frac{5}{9} - \frac{1}{6} = \frac{10}{18} - \frac{3}{18} = \frac{7}{18}$$

Skill 18 Adding Mixed Numbers

Add. First add the fractions. Then add the whole numbers.

$$12\frac{7}{5} = 12 + 1\frac{2}{5} = 13\frac{2}{5}$$

$3\frac{4}{5} + 9\frac{3}{5}$

$$12\frac{7}{5} = 12 + 1\frac{2}{5} = 13\frac{2}{5}$$

Add. Write each sum in lowest terms.

1. $5\frac{7}{11} + 2\frac{3}{11}$
2. $8 + 3\frac{1}{7}$
3. $6\frac{5}{11} + 11$
4. $14\frac{3}{8} + 5\frac{2}{8}$
5. $19\frac{5}{12} + 3\frac{11}{12}$
6. $13\frac{5}{16} + 7\frac{15}{16}$
7. $23\frac{26}{45} + 15\frac{7}{45}$
8. $16\frac{21}{40} + 18\frac{29}{40}$
9. $9\frac{7}{10} + 2\frac{9}{10}$

Add. Write each sum in lowest terms.

10. $7\frac{1}{2} + 5\frac{3}{4}$
11. $9\frac{7}{10} + 16\frac{1}{4}$
12. $13\frac{5}{8} + 7\frac{5}{6}$
13. $14\frac{7}{12} + 5\frac{2}{9}$
14. $10\frac{2}{3} + 6\frac{1}{3}$
15. $12\frac{9}{10} + 4\frac{2}{5}$
16. $18\frac{1}{6} + 26\frac{5}{9}$
17. $4\frac{7}{8} + 25\frac{2}{4}$
18. $3\frac{5}{8} + 2\frac{7}{12}$

$19. 13\frac{5}{12} + 17\frac{5}{6}$

$$20. 27\frac{9}{10} + 16\frac{7}{45}$$

$24. 12\frac{11}{32} + 5\frac{13}{32}$

$$25. 21\frac{4}{5} + 18\frac{3}{5}$$

$$26. 15\frac{13}{20} + 6\frac{1}{3}$$

$$27. 10\frac{1}{4} + 8\frac{1}{3}$$

$$28. 19\frac{3}{10} + 11\frac{9}{16}$$

BACK

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Skill 19 Subtracting Mixed Numbers

Subtract.

Subtract the fractions.
Then subtract the whole numbers.

$$\begin{array}{r} 17\frac{7}{12} \\ -9\frac{1}{12} \\ \hline \end{array}$$

$$8\frac{6}{12} = 8\frac{1}{2}$$

If necessary, first rewrite the fractions as equivalent fractions with a common denominator.

$$\begin{array}{r} 14\frac{9}{16} = 14\frac{9}{16} \\ -6\frac{1}{4} = -6\frac{4}{16} \\ \hline 8\frac{5}{16} \end{array}$$

Subtract. Write each difference in lowest terms.

$$\begin{array}{r} 1. \quad 4\frac{6}{7} \\ \quad -2\frac{1}{7} \\ \hline \end{array}$$

$$2. \quad 36\frac{5}{7} \\ \quad -13\frac{2}{7} \\ \hline$$

$$3. \quad 21\frac{19}{32} \\ \quad -8\frac{15}{32} \\ \hline$$

$$4. \quad 8\frac{3}{4} \\ \quad -5\frac{1}{4} \\ \hline$$

$$5. \quad 6\frac{7}{8} \\ \quad -1\frac{3}{8} \\ \hline$$

$$6. \quad 14\frac{13}{20} \\ \quad -10\frac{7}{20} \\ \hline$$

Subtract. Write each difference in lowest terms.

$$7. \quad 8\frac{3}{4} \\ \quad -5\frac{1}{3} \\ \hline$$

$$8. \quad 51\frac{11}{16} \\ \quad -36\frac{1}{8} \\ \hline$$

$$9. \quad 26\frac{8}{9} \\ \quad -21\frac{1}{4} \\ \hline$$

$$10. \quad 7\frac{1}{2} \\ \quad -5\frac{5}{12} \\ \hline$$

$$11. \quad 22\frac{19}{40} \\ \quad -9\frac{7}{20} \\ \hline$$

$$12. \quad 13\frac{5}{18} \\ \quad -6\frac{1}{12} \\ \hline$$

$$13. \quad 25\frac{5}{7} \\ \quad -10\frac{1}{6} \\ \hline$$

$$14. \quad 39\frac{8}{9} \\ \quad -30\frac{5}{18} \\ \hline$$

$$15. \quad 16\frac{7}{8} \\ \quad -12\frac{1}{5} \\ \hline$$

Subtract. Write each difference in lowest terms.

$$16. \quad 9\frac{11}{20} \\ \quad -7\frac{7}{8} \\ \hline$$

$$17. \quad 14 \\ \quad -10\frac{3}{10} \\ \hline$$

$$18. \quad 6 \\ \quad -2\frac{5}{8} \\ \hline$$

$$19. \quad 19\frac{5}{16} \\ \quad -6\frac{5}{8} \\ \hline$$

$$20. \quad 6\frac{2}{9} \\ \quad -4\frac{2}{3} \\ \hline$$

$$21. \quad 24\frac{6}{6} \\ \quad -10\frac{11}{12} \\ \hline$$

$$22. \quad 11\frac{3}{10} \\ \quad -7\frac{11}{15} \\ \hline$$

$$23. \quad 6\frac{3}{4} \\ \quad -3\frac{5}{7} \\ \hline$$

$$24. \quad 4\frac{3}{20} \\ \quad -1\frac{11}{15} \\ \hline$$

Skill 20 Multiplying Fractions and Mixed Numbers

Multiply. Write the product in lowest terms.

$$\frac{7}{8} \times \frac{4}{13} = \frac{7 \times 4}{8 \times 13} = \frac{7}{26}$$

$$5 \times \frac{3}{4} = \frac{5 \times 3}{1 \times 4} = \frac{15}{4} = 3\frac{3}{4}$$

$$2\frac{1}{5} \times 3\frac{1}{3} = \frac{11}{5} \times \frac{10}{3} = \frac{11 \times 10}{5 \times 3} = \frac{22}{3} = 7\frac{1}{3}$$

Write each product in lowest terms.

$$1. \quad \frac{1}{6} \times \frac{2}{5}$$

$$2. \quad \frac{1}{7} \times \frac{2}{9}$$

$$3. \quad \frac{5}{11} \times \frac{3}{10}$$

$$4. \quad 16 \times \frac{3}{8}$$

$$5. \quad \frac{10}{13} \times 26$$

$$6. \quad \frac{1}{4} \times \frac{5}{9}$$

$$7. \quad \frac{7}{12} \times \frac{2}{21}$$

$$8. \quad \frac{5}{8} \times \frac{3}{5}$$

$$9. \quad \frac{1}{2} \times \frac{10}{13}$$

$$10. \quad 18 \times \frac{7}{9}$$

$$11. \quad 24 \times \frac{5}{6}$$

$$12. \quad \frac{1}{3} \times \frac{9}{20}$$

$$13. \quad 10 \times 7\frac{2}{5}$$

$$14. \quad \frac{5}{9} \times 2\frac{7}{10}$$

$$15. \quad 5\frac{1}{3} \times 1\frac{1}{8}$$

$$16. \quad 5\frac{1}{2} \times \frac{8}{11}$$

Skill 21 Dividing Fractions and Mixed Numbers

To divide with fractions and mixed numbers, multiply the dividend by the reciprocal of the divisor.

$$\frac{5}{6} \div \frac{2}{5} = \frac{5}{6} \times \frac{5}{2} = \frac{25}{12} = 2\frac{1}{12}$$

$$\frac{9}{16} \div 3 = \frac{9}{16} \times \frac{1}{3} = \frac{3}{16}$$

$$15\frac{2}{3} \div 1\frac{1}{9} = \frac{47}{3} \div \frac{10}{9} = \frac{47}{3} \times \frac{9}{10} = \frac{141}{10} = 14\frac{1}{10}$$

Write each quotient in lowest terms.

$$1. \quad \frac{1}{5} \div \frac{1}{15}$$

$$2. \quad \frac{5}{6} \div \frac{1}{12}$$

$$3. \quad \frac{3}{7} \div \frac{6}{11}$$

$$4. \quad 8 \div \frac{4}{7}$$

$$5. \quad \frac{2}{3} \div \frac{4}{9}$$

$$6. \quad \frac{10}{13} \div \frac{25}{26}$$

$$7. \quad \frac{5}{12} \div \frac{9}{10}$$

$$8. \quad \frac{5}{9} \div 10$$

$$9. \quad \frac{3}{8} \div \frac{5}{7}$$

$$10. \quad 2\frac{4}{7} \div \frac{3}{4}$$

$$11. \quad 1\frac{11}{19} \div 7\frac{1}{2}$$

$$12. \quad 35 \div \frac{7}{10}$$