



PROBLEMS AND SOLUTIONS - OPERATIONS ON FRACTIONS, RATIOS, AND PROPORTIONS

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Please Send Questions and Comments to ingrid.stewart@csn.edu. Thank you!

PLEASE NOTE THAT YOU CANNOT USE A CALCULATOR ON THE ACCUPLACER - ARITHMETIC TEST! YOU MUST BE ABLE TO DO THE FOLLOWING PROBLEMS WITHOUT A CALCULATOR!

The solutions are listed below the problem set!

Problem 1:

Find the sum of $\frac{5}{7} + \frac{3}{7}$ reduced to lowest terms.

Problem 2:

Find the sum of $\frac{2}{5} + \frac{3}{7}$ reduced to lowest terms.

Problem 3:

Simplify $\frac{5}{6} + \frac{1}{4} - \frac{3}{16}$.

Problem 4:

A business with a certain revenue must pay $\frac{1}{5}$ for raw materials, $\frac{3}{10}$ for rent and utilities, and $\frac{1}{3}$ for salaries. What fraction of the revenue is left for pure profit?

Problem 5:

Find the difference of $4 - \frac{3}{8}$ and write as a mixed number reduced to lowest terms.

Problem 6:

What number do you have to add to $\frac{10}{29}$ to get $2\frac{17}{29}$? If necessary, express your answer as a mixed number reduced to lowest terms.

Problem 7:

Simplify $7\frac{1}{4} + 2\frac{7}{8} - 4\frac{1}{3}$ and write as a mixed number reduced to lowest terms.

Problem 8:

Find the product of $\frac{3}{4} \cdot \frac{8}{9}$ reduced to lowest terms.

Please note that instead of using the cross \times or the parentheses () to indicate multiplication, we are using the dot.

Problem 9:

Find the product of $\frac{3}{4} \cdot \frac{7}{8}$ reduced to lowest terms.

Problem 10:

Find the product of $32 \cdot \frac{7}{8}$ reduced to lowest terms.

Problem 11:

Find the product of $2\frac{2}{5} \cdot 1\frac{1}{3}$ and write as a mixed number reduced to lowest terms.

Problem 12:

Find the product of $3\frac{1}{4} \cdot 5$ and write as a mixed number reduced to lowest terms.

Problem 13:

Find the product of $13 \cdot 3\frac{4}{7}$ and express as a mixed number reduced to lowest terms.

Problem 14:

What number is $\frac{3}{10}$ of 150?

Problem 15:

Find the quotient of $\frac{5}{8} \div \frac{3}{4}$ reduced to lowest terms.

Problem 16:

Find the quotient of $21 \div 3\frac{5}{8}$ and write as a mixed number reduced to lowest terms.

Problem 17:

Find the quotient of $6\frac{7}{9} \div 5$ and write as a mixed number reduced to lowest terms.

Problem 18:

Find the quotient of $\frac{4}{\frac{1}{2} + \frac{3}{8} + \frac{5}{16}}$ and write as a mixed number reduced to lowest terms.

Problem 19:

Reduce the following fractions to lowest terms.

$$\frac{6 + 8A}{2} \quad \text{and} \quad \frac{6 \times 8A}{2}$$

Problem 20:

For your favorite bread recipe you need 4 cups of whole wheat flour for every 8 cups of white flour. Since you only have 6 cups of white flour left you decide to bake only two loaves. How many cups of whole wheat flour should you use?

Problem 21:

A factory worker can assemble 24 watches in 45 minutes. If her pace stays constant, how many watches can she assemble every 15 minutes?

Problem 22:

On a certain map, 2 inches represents 25 miles. If the distance between Humarock and Cody measures 1.5 inches on the map, how many miles are the cities apart?

Problem 23:

Which of the following fractions is the smallest?

$$\frac{4}{9}, \frac{5}{11}, \frac{1}{3}$$

Problem 24:

Which of the following fractions is the smallest?

$$\frac{87}{100}, \frac{27}{32}, \frac{4}{5}$$


SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. $1\frac{1}{7}$	2. $\frac{29}{35}$	3. $\frac{43}{48}$
4. $\frac{1}{6}$	5. $3\frac{5}{8}$	6. $2\frac{7}{29}$
7. $5\frac{19}{24}$	8. $\frac{2}{3}$	9. $\frac{21}{32}$
10. 28	11. $3\frac{1}{5}$	12. $16\frac{1}{4}$
13. $46\frac{3}{7}$	14. 45	15. $\frac{5}{6}$
16. $5\frac{23}{29}$	17. $1\frac{16}{45}$	18. $3\frac{7}{19}$
19. 3 + 4A; 24A	20. 3 Cups	21. 8 Watches
22. 18.75 miles	23. $\frac{1}{3}$	24. $\frac{4}{5}$