

Pre-Algebra
Operations with Rational Numbers

Let's work together.



Evaluate each numerical expression.

1. $-12.4 + 9.2$

2. $-3 + 1\frac{1}{2} + 2\frac{1}{2}$

3. $(-5)(-2.1)$

4. $\left(\frac{2}{3}\right)\left(-3\frac{9}{10}\right)\left(\frac{5}{6}\right)$

5. $-\frac{2}{9} - (-3)$

6. $\frac{-\frac{5}{8}}{-\frac{6}{7}}$

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

8. $15 \div -0.03$

9. $5 - 7.5 + \frac{3}{4} - (-1.25)$

Problem Solving with Rational Numbers

10. Sandy has \$200 in her bank account.

- a. If she writes 6 checks for exactly \$19.98 each, write a numerical expression that represents the change in her bank account.

- b. What is her account balance after the checks are cashed?

11. On Monday, your bank account balance was -\$12.58. You didn't realize this and wrote a check for \$30.72 for groceries.

- a. What is the new balance in your checking account? Write and evaluate a numerical expression to answer the question.

- b. The bank charges a \$25 fee for paying a check on a negative balance. What is the balance in your checking account after this fee? Write and evaluate a numerical expression to answer the question.

- c. How much money do you need to deposit to bring your account balance back up to \$0 after the fee?

12. A water pail in your backyard has a small hole in it. You notice that it has drained a total of 3.5 liters in 4 days. What is the average change in water volume each day? Write a numerical expression that models the situation. Evaluate to answer the question.

13. A car travels 30 miles in $\frac{2}{3}$ of an hour. What is the average speed, in *miles per hour*?