

WORKING WITH RATIONAL NUMBERS

Model Problems:

To work with rational numbers: first follow the rules for integers and then operate on the fractions or decimals.

$$\begin{array}{ll} 1. & (-6.3) + (+4.2) = -2.1 \\ 2. & \left(-5\frac{1}{2}\right) - \left(-3\frac{2}{3}\right) = -1\frac{5}{6} \\ 3. & \left(-2\frac{1}{4}\right)\left(-3\frac{1}{2}\right) = 7\frac{7}{8} \\ 4. & \left(-4\frac{1}{2}\right) \div 2\frac{1}{2} = -1\frac{4}{5} \end{array}$$

Practice:

Perform operations on rational numbers.

$$\begin{array}{lll} 1. & \left(-4\frac{1}{5}\right) + 2\frac{1}{7} & 2. & 2.94 - (-18.257) & 3. & (-3.15)(2.6) \\ 4. & 13.12 + (-3) & 5. & -5\frac{1}{3} - \left(-2\frac{2}{7}\right) & 6. & 7\frac{1}{15} \div \left(-\frac{1}{3}\right) \\ 7. & 4.29 + (-5) & 8. & \left(-6\frac{1}{4}\right) + \left(-3\frac{2}{5}\right) & 9. & \left(-5\frac{1}{12}\right) \div \left(-\frac{2}{3}\right) \\ 10. & -3.72 + 6.1 & 11. & \left(-5\frac{2}{3}\right) - \left(2\frac{2}{5}\right) & 12. & \left(-6\frac{1}{4}\right) \div \left(1\frac{2}{3}\right) \\ 13. & -5 - 3.63 & 14. & \left(-2\frac{1}{4}\right) - \left(-6\frac{3}{4}\right) & 15. & \left(-3\frac{3}{4}\right) \div \frac{5}{8} \\ 16. & -6 + 3.8 & 17. & \left(5\frac{2}{7}\right) - \left(10\frac{5}{7}\right) & 18. & \left(-4\frac{4}{5}\right)\left(\frac{4}{15}\right) \\ 19. & 8\frac{6}{11} - 10\frac{1}{4} & 20. & 10\frac{3}{7} + \left(-3\frac{2}{3}\right) & 21. & -10 - \left(-6\frac{3}{4}\right) \\ 22. & (-0.02530) \div (-0.5) & 23. & (-26) \div (0.13) & 24. & (2.01) \times (-0.01) \\ 25. & 27.4 - (-6.3) & 26. & (-5) \div (0.4) & 27. & (-18.2)(-2.1)(-5) \end{array}$$

Answers:

$$\begin{array}{llll} 1. & -2\frac{2}{35} & 2. & 21.197 \\ 3. & -8.19 & 4. & 10.12 \\ 5. & -3\frac{1}{21} & 6. & -21\frac{1}{5} \\ 7. & -0.71 & 8. & -9\frac{13}{20} \\ 9. & 7\frac{5}{8} & 10. & 2.38 \\ 11. & -8\frac{1}{15} & 12. & -3\frac{3}{4} \end{array}$$

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|-----|-----------------|-----|------------------|-----|-------------------|-----|------------------|
| 13. | -8.63 | 14. | $4\frac{1}{2}$ | 15. | -6 | 16. | -2.2 |
| 17. | $-5\frac{3}{7}$ | 18. | $-1\frac{7}{25}$ | 19. | $-1\frac{31}{44}$ | 20. | $6\frac{16}{21}$ |
| 21. | $-3\frac{1}{4}$ | 22. | 0.0506 | 23. | -200 | 24. | -0.0201 |
| 25. | 33.7 | 26. | -12.5 | 27. | -191.1 | | |