

Warm-Up Notes

MAT 100: ELEMENTARY ALGEBRA

Fall 2026

SECTION 2.2 SOLVE EQUATIONS USING THE DIVISION AND MULTIPLICATION PROPERTIES OF EQUALITY

Install — 10 minute lesson

Objectives of this Section

- Solve equations using the Division and Multiplication Properties of Equality
- Solve equations that require simplification
- Translate to an equation and solve
- Translate and solve applications

Skills

Introduced in this section:

- **EQN.1M** — One-step Equations (Multiply-Divide)

Also practiced: WRD.EQ (Decoding an explicit equation), WRD.NM (Naming the model).

Lesson

When a number is multiplying your variable, you undo it the same way you undid addition or subtraction: do the opposite operation to both sides. If that number is a whole number, you divide by it. If it's a fraction, you multiply by its reciprocal — the number that turns it into 1. Either way, the goal never changes: get the variable alone.

I do

Watch. Solve each equation using the Division and Multiplication Properties of Equality and check the solution. $-\frac{5}{8}w = 40$

We do

Together. Aiden is 27 inches tall. He is $\frac{3}{8}$ as tall as his father. Solve for his father's height in inches. $27 = \frac{3}{8}h$

You do

Your turn. Solve each equation using the Division and Multiplication Properties of Equality and check the solution. $24x = 0$

Your turn. Solve the equation. Show your work. $19.36 = x - 0.2x$

Practice

1. Solve each equation using the Division and Multiplication Properties of Equality and check the solution. $-\frac{2}{5} = \frac{1}{10}a$

2. Translate to an Equation and Solve. Three-tenths of x is 15.

3. Solve the equation. Show your work. $z - 16 = -59$

4. Mollie paid \$36.25 for 5 movie tickets. What was the price of each ticket?