

2.2 Part 2 Problem-Solving Strategy: Working Backwards

There are several strategies for solving problems:

- work backwards
- make a table
- guess & check
- act it out
- solve a simpler problem
- look for a pattern
- make a diagram
- eliminate possibilities

1. An ice sculpture is melting at a rate of $\div 2$ half its weight every hour. After 8 hours, it weighs $\frac{5}{16}$ of a pound. How much did it weigh in the beginning?
- Handwritten notes:* \downarrow opposite -2 (next to $\div 2$); $\frac{5}{16}$ is boxed and labeled "start".

$$\frac{5}{16} \cdot \underbrace{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}_{8 \text{ hours}}$$

$$\frac{5}{16} \cdot 2^8 = \boxed{80 \text{ lb}}$$

2. A number is decreased by 35, then multiplied by 6, then added to 87, then divided by 3. The result is 67 *start*
What is the number?

$$\begin{array}{r} 67 \cdot 3 = 201 \\ - 87 \\ \hline 114 \end{array} \div 6 = 19$$
$$\begin{array}{r} 19 \\ + 35 \\ \hline \boxed{54} \end{array}$$

3. Kristin spent one fifth of her money for gas. Then she spent half of what was left for a haircut. She bought lunch for \$7. When she got home, she had \$13 left. How much did Kristin have originally?

SKIP

4. The price of a television at Walmart is $\frac{2}{3}$ now two-thirds ^{mult} of the price it was last week. Now the price is $\$360$. What was the price last week?

$$\$360 \div \frac{2}{3} = \$540$$