

Teaching Math: What Technology Should Do, What People Should Do

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A Standard Algebra Problem

Simplify $\frac{3x-12}{x^2+x-20} - \frac{x^2+5x}{x^2+9x+20}$.

A Rate Problem

I reset my bike speedometer before leaving for work. When I arrived, the speedometer said I had ridden 10.2 miles at an average speed of 13.1 miles per hour. At the end of the work day without resetting the speedometer, I took a long route home. When I arrived the speedometer said I had ridden 28.6 miles at an average speed of 14.8 miles per hour. What was my average speed on the ride home?

A Modeling Problem

The table shows the world record times, in seconds, in the 100 meter dash for women at various times over the last century.

Year	1940	1950	1960	1970	1980	1990	2000
Time	11.6	11.5	11.3	11.0	10.88	10.49	10.49

Predict the world record time in 2020.

Human Weight vs. Height

What is the relationship between human weight and height?

Conclusions

1. Computers can handle symbolic manipulation faster and more accurately than a human.
2. Humans can use computers to help generate meaning.
3. Students must be given realistic problems that require them to acquire and practice generating meaning from computation.