2.3 Linear Equations

Examples

- Solve $\dfrac{7}{3}(2d-1) - \dfrac{2}{5}(4-3d) = \dfrac{1}{5}d$

- Solve $1.1z - 2.5 = 0.3(z-2)$

- Solve graphically $\sqrt{2}x = 4x - 6$

Example

The value of a house in 1995 was $180,000 and in 2005 it was appraised for $245,000.

a. Find a linear function V that approximates the value of the house during year x.
b. What does the slope of the graph of V represent?
c. Use V to estimate the year when the house was worth $219,000.

From *Precalculus with Modeling and Visualization* 3rd ed. by Rockswold, 2006, p.120, problem 84.

Example

A radiator holds 5 gallons of fluid. If it is full with a 15% solution, how much fluid should be drained and replaced with 65% antifreeze mixture to result in a 40% mixture of antifreeze?

From *Precalculus with Modeling and Visualization* 3rd ed. by Rockswold, 2006, p.122, problem 100.

Example

A company manufactures compact discs with recorded music. The master disc costs $2000 to produce and copies cost $0.45 each. If a company spends $2990 producing compact discs, how many copies did the company manufacture?

From *Precalculus with Modeling and Visualization* 3rd ed. by Rockswold, 2006, p.122, problem 108.