

## Rational Equation Applications

T-shirt sales: \$225 plus \$3.25 per shirt

Average Cost:  $y = \frac{225 + 3.25x}{x}$

Find the T-shirt sales needed to have an average cost of \$10.

$$x \left[ 10 = \frac{225 + 3.25x}{x} \right]$$

$$10x = 225 + 3.25x$$

$$\frac{6.75x}{6.75} = \frac{225}{6.75}$$

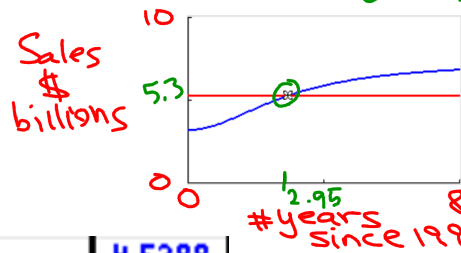
$$x = 33.\bar{3} \rightsquigarrow 34 \text{ shirts}$$

From 1995-2003 - Video Game Sales

$$S(t) = \frac{848t^2 + 3220}{115t^2 + 1000} \quad 0 \leq t \leq 8$$

$t = \# \text{ years since } 1995$  when were sales \$5.3 billion

$$5.3 = \frac{848t^2 + 3220}{115t^2 + 1000}$$



In about year 3.  
(1998)

2	4.5288
3	5.3327
4	5.9113

Year 3 (1998)