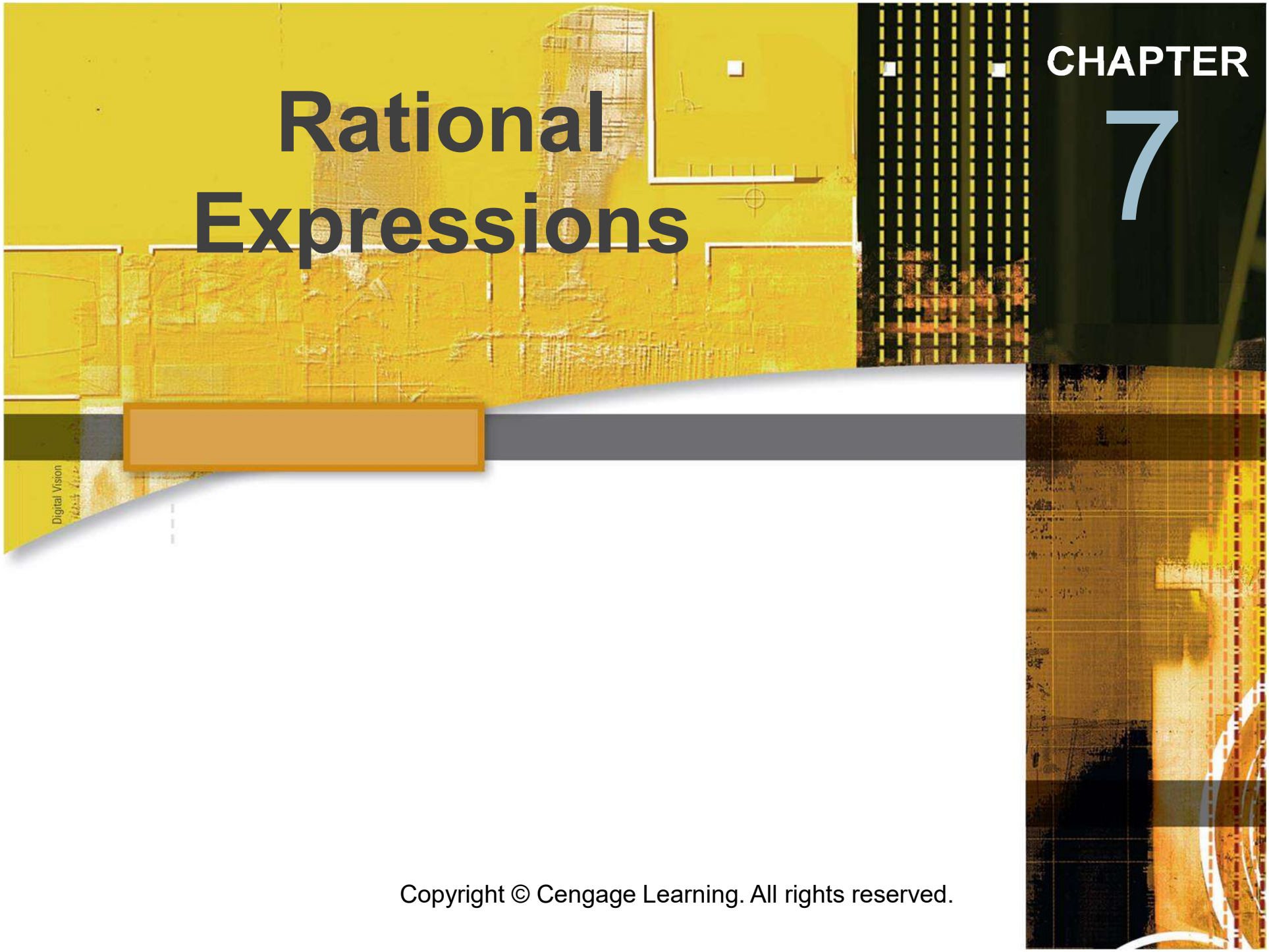

7.6 Literal Equations

Objective

1. Solve literal equations

Solve literal equations

Solve literal equations

A **literal equation** is an equation that contains more than one variable.

Examples of literal equations are shown below.

$$3x - 2y = 4$$

$$v^2 = v_0^2 + 2as$$

Formulas are used to express relationships among physical quantities.

A **formula** is a literal equation that states a rule about measurements.

Solve literal equations

Examples of formulas are shown below.

$$s = vt - 16t^2 \qquad \text{(Physics)}$$

$$c^2 = a^2 + b^2 \qquad \text{(Geometry)}$$

$$A = P(1 + r)^t \qquad \text{(Business)}$$

Example 1

A. Solve $A = P + Prt$ for P.

B. Solve $\dfrac{S}{S - C} = R$ for C.

Solution:

A. $A = P + Prt$

$A = (1 + rt)P$ Factor P from $P + Prt$.

$\dfrac{A}{1 + rt} = \dfrac{(1 + rt)P}{1 + rt}$ Divide each side of the equation by $1 + rt$.

$\dfrac{A}{1 + rt} = P$

Example 1 – *Solution*

cont'd

B. $\dfrac{S}{S-C} = R$

$(S-C)\dfrac{S}{S-C} = (S-C)R$ — Multiply each side of the equation by $S - C$.

$S = SR - CR$

$CR + S = SR$ — Add CR to each side of the equation.

$CR = SR - S$ — Subtract S from each side of the equation.

$C = \dfrac{SR - S}{R}$ — Divide each side of the equation by R.