4.7 Solving Equations with Fractions

Recall from chapters 2 and 3:

For any real numbers a, b, and c	
Addition Property of Equality	if $a = b$, then $a + c = b + c$
Subtraction Property of Equality	if $a = b$, then $a - c = b - c$
Division Property of Equality	if $a = b$ and $c \neq 0$, then $\frac{a}{c} = \frac{b}{c}$

Demonstration Problems	*Practice Problems*
Add and simplify, if possible. **1. (a)** $y + \frac{11}{12} = \frac{5}{12}$	Solve. **1. (b)** $y + \frac{9}{16} = \frac{5}{16}$
	Answers: **1. (b)** $-\frac{1}{4}$

Demonstration Problems	*Practice Problems*
Solve. **2. (a)** $a-\frac{3}{5}=-\frac{8}{5}$	Solve. **2. (b)** $a-\frac{5}{9}=-\frac{8}{9}$
3. (a) $12u=-76$	**3. (b)** $10m=44$
	Answers: **2. (b)** $a=-\frac{1}{3}$; **3. (b)** $m=\frac{22}{5}$

For any real numbers a, b, and c

Multiplication Property of Equality — if $a = b$, then $ac = bc$

Demonstration Problems	*Practice Problems*
Solve. **4. (a)** $\frac{w}{5} = -25$	Solve. **4. (b)** $\frac{x}{7} = -9$
5. (a) $\frac{c}{-7} = -35$	**5. (b)** $\frac{h}{-8} = -40$
	Answers: **4. (b)** $x = -63$; **5. (b)** $h = 320$