5.4 Solving Equations with Decimals

For any real numbers a, b, and c :		Examples
Addition Property of Equality	If $a = b$, then $a + c = b + c$	If $x - 2 = 5$, then $x - 2 + 2 = 5 + 2$ $x = 7$
Subtraction Property of Equality	If $a = b$, then $a - c = b - c$	If $x + 2 = 5$, then $x + 2 - 2 = 5 - 2$ $x = 3$
Multiplication Property of Equality	If $a = b$, then $ac = bc$	If $\frac{x}{2} = 5$, then $\frac{x}{2} \bullet 2 = 5 \bullet 2$ $x = 10$
Division Property of Equality	If $a = b$ and $c \neq 0$, then $\frac{a}{c} = \frac{b}{c}$	If $2x = 6$, then $\frac{2x}{2} = \frac{6}{2}$ $x = 3$

Demonstration Problems	*Practice Problems*
Add and simplify, if possible. **1. (a)** $y + 2.7 = -5.3$	Solve. **1. (b)** $y + 2.3 = -4.7$
	Answers: **1. (b)** -7

Demonstration Problems	*Practice Problems*
Solve. **2. (a)** $a - 3.93 = -2.86$	Solve. **2. (b)** $a - 4.75 = -1.39$
3. (a) $-8.4 = 0.7m$	**3. (b)** $-4.8 = 0.8m$
	Answers: **2. (b)** $a = 3.36$; **3. (b)** $m = -6$

Demonstration Problems	*Practice Problems*
Solve. **4. (a)** $\frac{p}{-2.6} = -4.5$	Solve. **4. (b)** $\frac{p}{-1.8} = -6.5$
5. (a) $\frac{c}{-2} = -34$	**5. (b)** $\frac{h}{-8} = -40$
	Answers: **4. (b)** $p = 11.7$; **5. (b)** $h = 320$