

Solving Equation with

Section 7.5 Brackets

Nov. 12

2. $2(x - 3) = 2$

$2x - 6 = 2 + 6$

$\frac{2x}{2} = \frac{8}{2}$

$x = 4$

3. $3(x + 2) = -9$

$3x + 6 = -9$

$\frac{3x}{3} = \frac{-15}{3}$

$x = -5$

7.

$$\begin{aligned}
 & 2(3x+4) = 14 \\
 & \quad \quad \quad \text{red arrows from 2 to 3x and 4} \\
 & 6x + 8 = 14 - 8 \\
 & 6x = 6 \\
 & \quad \quad \quad \text{blue 6 under 6x and 6} \\
 & x = 1
 \end{aligned}$$

L.S.

R.S.

$$\begin{aligned}
 & 2(3x+4) \\
 & = 2(3(1)+4) \\
 & = 2(3+4) \\
 & = (2)(7) \\
 & = 14
 \end{aligned}$$

14

11.

$$-24 = 4(x+3)$$
$$-24 = 4x + 12$$
$$\frac{-36}{4} = \frac{4x}{4}$$
$$x = -9$$

L.S.	R.S
-24	$4(x+3)$
	$4(-9+3)$
	$= 4(-6)$
	$= -24$

14.

$$3(x+1) + 10 = 8 - 2x$$

$$3x + 3 + 10 = 8 - 2x$$

$$3x + 13 = 8 - 2x$$

$$5x + 13 = 8 - 13$$

$$5x = -5$$

$$x = -1$$

11. $5(2x-3) = 2(x-2) + 5$

$10x - 15 = 2x - 4 + 5$

$10x - 15 = 2x + 1$

$8x - 15 = 1 + 15$

$\frac{8x}{8} = \frac{16}{8}$

$x = 2$

24.

Solve and Check

$$4(m-2) - 1(m+3) = m-1$$

Diagram illustrating the distributive property:

$$\underbrace{4m}_{4(m)} - \underbrace{8}_{4(-2)} - \underbrace{1m}_{1(m)} - \underbrace{3}_{1(3)} = m-1$$

$$3m - 11 = m - 1$$

$$2m - 11 = -1$$

$$\frac{2m}{2} = \frac{10}{2}$$

$$m = 5$$

$$25. \quad 4(n-7) - 2(n+3) = -15n$$

$$4n - 28 - 2n - 6 = -15n$$

$$2n - 34 = -15n$$

$$\frac{-34}{-17} = \frac{-17n}{-17}$$

$$n = 2$$

$$27. \quad 3(2x+1) - (x-2) = 2(x+4)$$

$$6x + 3 - x + 2 = 2x + 8$$

$$5x + 5 = 2x + 8$$

$$5x = 2x + 3$$

$$\frac{3x}{3} = \frac{3}{3}$$

$$x = 1$$

$$30. \quad 7(x-1) - 2(x-6) = 2(x-5) + 6$$

$$7x - 7 - 2x + 12 = 2x - 10 + 6$$

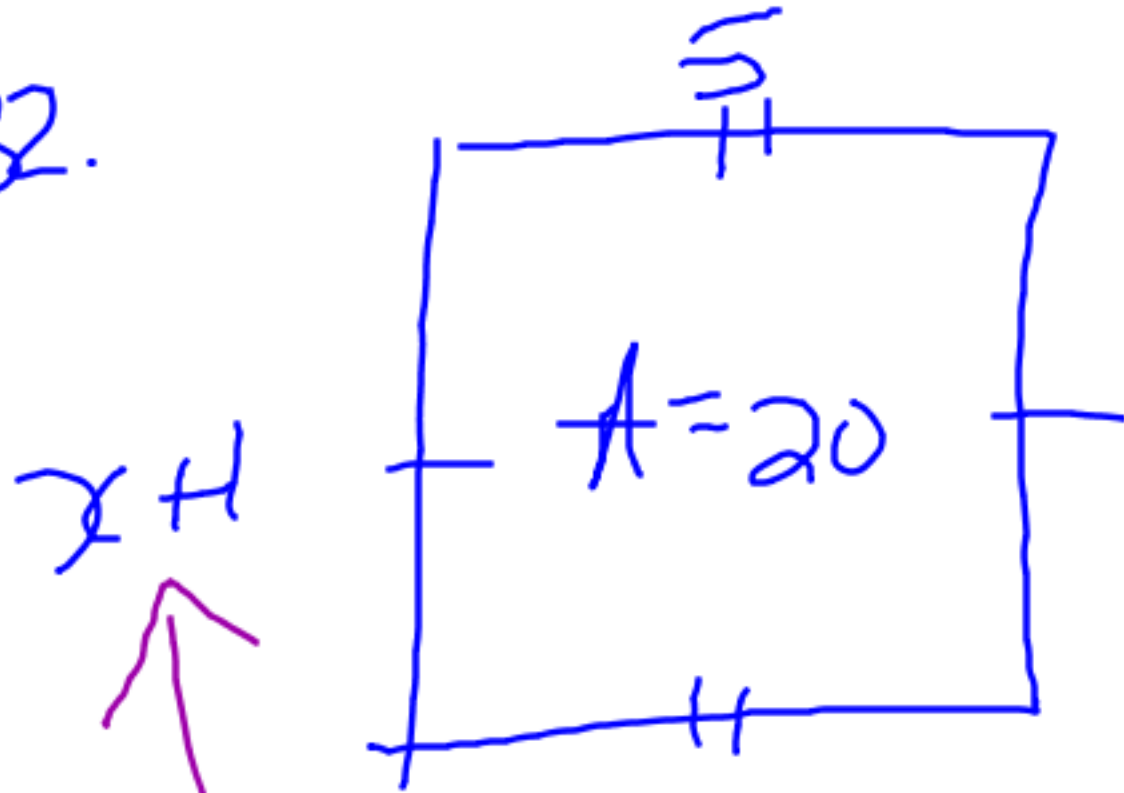
$$5x + 5 = 2x - 4$$

$$3x = 2x - 9$$

$$x = -9$$

$$x = -3$$

32.



$$A = L \times w$$

$$20 = 5(x+1)$$

$$20 = 5x + 5$$

$$\frac{15}{5} = \frac{5x}{5}$$

width: $x+1$
 $3+1$

$\therefore$ the width is 4 units

$$3 = 2$$

HWK p. 358
 Solving
 Equations
 with Brackets

