Equations with Brackets.

Date: Name:

Solve each equation below for the given variable. Show all working!

[1] $7(x + 5) = 63$	**[2]** $5(x + 7) = 45$	**[3]** $8(4 + 3y) = 80$
[4] $4(3y + 12) = 108$	**[5]** $8(-3y - 2) = -160$	**[6]** $5(-5y - 10) = -100$
[7] $-7(-6y - 3) = 231$	**[8]** $-3(-y - 9) = 63$	**[9]** $-5(4 + 11y) = 90$
[10] $-8(-4y + 5) = 88$	**[11]** $-4(2y - 3) = -36$	**[12]** $-9(y - 7) = 90$

ANSWERS:

Equations with Brackets.   Date: Name:

Solve each equation below for the given variable. Show all working!

[1]

$$7(x + 5) = 63$$

$$7x + 35 = 63$$
$$-35 \qquad -35$$

$$\frac{7x}{7} = \frac{28}{7}$$

$$\boxed{x = 4}$$

[2]

$$5(x + 7) = 45$$

$$5x + 35 = 45$$
$$-35 \qquad -35$$

$$\frac{5x}{5} = \frac{10}{5}$$

$$\boxed{x = 2}$$

[3]

$$8(4 + 3y) = 80$$

$$32 + 24y = 80$$
$$-32 \qquad -32$$

$$\frac{24y}{24} = \frac{48}{24}$$

$$\boxed{y = 2}$$

[4]

$$4(3y + 12) = 108$$

$$12y + 48 = 108$$
$$-48 \qquad -48$$

$$\frac{12y}{12} = \frac{60}{12}$$

$$\boxed{y = 5}$$

[5]

$$8(-3y - 2) = -160$$

$$-24y - 16 = -160$$
$$+16 \qquad +16$$

$$\frac{-24y}{-24} = \frac{-144}{-24}$$

$$\boxed{y = 6}$$

[6]

$$5(-5y - 10) = -100$$

$$-25y - 50 = -100$$
$$+50 \qquad +50$$

$$\frac{-25y}{-25} = \frac{-50}{-25}$$

$$\boxed{y = 2}$$

[7]

$$-7(-6y - 3) = 231$$

$$42y + 21 = 231$$
$$-21 \qquad -21$$

$$\frac{42y}{42} = \frac{210}{42}$$

$$\boxed{y = 5}$$

[8]

$$-3(-y - 9) = 63$$

$$3y + 27 = 63$$
$$-27 \qquad -27$$

$$\frac{3y}{3} = \frac{36}{3}$$

$$\boxed{y = 12}$$

[9]

$$-5(4 + 11y) = 90$$

$$-20 - 55y = 90$$
$$+20 \qquad +20$$

$$\frac{-55y}{-55} = \frac{110}{-55}$$

$$\boxed{y = -2}$$

[10]

$$-8(-4y + 5) = 88$$

$$32y - 40 = 88$$
$$+40 \qquad +40$$

$$\frac{32y}{32} = \frac{128}{32}$$

$$\boxed{y = 4}$$

[11]

$$-4(2y - 3) = -36$$

$$-8y + 12 = -36$$
$$-12 \qquad -12$$

$$\frac{-8y}{-8} = \frac{-48}{-8}$$

$$\boxed{y = 6}$$

[12]

$$-9(y - 7) = 90$$

$$-9y + 63 = 90$$
$$-63 \qquad -63$$

$$\frac{-9y}{-9} = \frac{27}{-9}$$

$$\boxed{y = -3}$$