

**Equations with Brackets.**

Date:

Name:

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

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

## ANSWERS:

Equations with Brackets.

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

|  |  |   |
|--|--|---|
| <p>[1]</p> $7(x + 5) = 63$ $\begin{array}{r} 7x + 35 = 63 \\ -35 \quad -35 \\ \hline 7x = 28 \\ \frac{7x}{7} = \frac{28}{7} \\ \hline x = 4 \end{array}$             | <p>[2]</p> $5(x + 7) = 45$ $\begin{array}{r} 5x + 35 = 45 \\ -35 \quad -35 \\ \hline 5x = 10 \\ \frac{5x}{5} = \frac{10}{5} \\ \hline x = 2 \end{array}$                     | <p>[3]</p> $8(4 + 3y) = 80$ $\begin{array}{r} 32 + 24y = 80 \\ -32 \quad -32 \\ \hline 24y = 48 \\ \frac{24y}{24} = \frac{48}{24} \\ \hline y = 2 \end{array}$              |
| <p>[4]</p> $4(3y + 12) = 108$ $\begin{array}{r} 12y + 48 = 108 \\ -48 \quad -48 \\ \hline 12y = 60 \\ \frac{12y}{12} = \frac{60}{12} \\ \hline y = 5 \end{array}$    | <p>[5]</p> $8(-3y - 2) = -160$ $\begin{array}{r} -24y - 16 = -160 \\ +16 \quad +16 \\ \hline -24y = -144 \\ \frac{-24y}{-24} = \frac{-144}{-24} \\ \hline y = 6 \end{array}$ | <p>[6]</p> $5(-5y - 10) = -100$ $\begin{array}{r} -25y - 50 = -100 \\ +50 \quad +50 \\ \hline -25y = -50 \\ \frac{-25y}{-25} = \frac{-50}{-25} \\ \hline y = 2 \end{array}$ |
| <p>[7]</p> $-7(-6y - 3) = 231$ $\begin{array}{r} 42y + 21 = 231 \\ -21 \quad -21 \\ \hline 42y = 210 \\ \frac{42y}{42} = \frac{210}{42} \\ \hline y = 5 \end{array}$ | <p>[8]</p> $-3(-y - 9) = 63$ $\begin{array}{r} 3y + 27 = 63 \\ -27 \quad -27 \\ \hline 3y = 36 \\ \frac{3y}{3} = \frac{36}{3} \\ \hline y = 12 \end{array}$                  | <p>[9]</p> $-5(4 + 11y) = 90$ $\begin{array}{r} -20 - 55y = 90 \\ +20 \quad +20 \\ \hline -55y = 110 \\ \frac{-55y}{-55} = \frac{110}{-55} \\ \hline y = -2 \end{array}$    |
| <p>[10]</p> $-8(-4y + 5) = 88$ $\begin{array}{r} 32y - 40 = 88 \\ +40 \quad +40 \\ \hline 32y = 128 \\ \frac{32y}{32} = \frac{128}{32} \\ \hline y = 4 \end{array}$  | <p>[11]</p> $-4(2y - 3) = -36$ $\begin{array}{r} -8y + 12 = -36 \\ -12 \quad -12 \\ \hline -8y = -48 \\ \frac{-8y}{-8} = \frac{-48}{-8} \\ \hline y = 6 \end{array}$         | <p>[12]</p> $-9(y - 7) = 90$ $\begin{array}{r} -9y + 63 = 90 \\ -63 \quad -63 \\ \hline -9y = 27 \\ \frac{-9y}{-9} = \frac{27}{-9} \\ \hline y = -3 \end{array}$            |