

Equations With Brackets : ANSWERS

$$\begin{aligned}
 1) \quad 2(x+2) &= 8 \\
 2x+4 &= 8 \\
 2x &= 8-4 \\
 2x &= 4 \\
 x &= \frac{4}{2} \\
 x &= 2
 \end{aligned}$$

$$\begin{aligned}
 2) \quad 3(x+5) &= 17 \\
 3x+15 &= 17 \\
 3x &= 17-15 \\
 3x &= 2 \\
 x &= \frac{2}{3}
 \end{aligned}$$

$$\begin{aligned}
 3) \quad 4(x-2) &= 1 \\
 4x-8 &= 1 \\
 4x &= 1+8 \\
 4x &= 9 \\
 x &= \frac{9}{4} \\
 x &= 2\frac{1}{4}
 \end{aligned}$$

$$\begin{aligned}
 4) \quad 7 &= 3(x+3) \\
 7 &= 3x+9 \\
 7-9 &= 3x \\
 -2 &= 3x \\
 -\frac{2}{3} &= x
 \end{aligned}$$

$$\begin{aligned}
 5) \quad 8 &= 6(x-3) \\
 8 &= 6x-18 \\
 8+18 &= 6x \\
 26 &= 6x \\
 \frac{26}{6} &= x \\
 \frac{13}{3} &= x \\
 4\frac{1}{3} &= x
 \end{aligned}$$

$$\begin{aligned}
 6) \quad 10 &= 3(x+4) \\
 10 &= 3x+12 \\
 10-12 &= 3x \\
 -2 &= 3x \\
 -\frac{2}{3} &= x
 \end{aligned}$$

$$\begin{aligned}
 7) \quad 2(3-x) &= 2 \\
 6-2x &= 2 \\
 6-2 &= 2x \\
 4 &= 2x \\
 \frac{4}{2} &= x \\
 2 &= x
 \end{aligned}$$

$$\begin{aligned}
 8) \quad 5(2x+3) &= 17 \\
 10x+15 &= 17 \\
 10x &= 17-15 \\
 10x &= 2 \\
 x &= \frac{2}{10} \\
 x &= \frac{1}{5}
 \end{aligned}$$

$$\begin{aligned}
 9) \quad 20 &= 3(3x-3) \\
 20 &= 9x-9 \\
 20+9 &= 9x \\
 29 &= 9x \\
 \frac{29}{9} &= x \\
 3\frac{2}{9} &= x
 \end{aligned}$$

$$\begin{aligned}
 10) \quad 17 &= 2(14-3x) \\
 17 &= 28-6x \\
 6x &= 28-17 \\
 6x &= 11 \\
 x &= \frac{11}{6} \\
 x &= 1\frac{5}{6}
 \end{aligned}$$

$$\begin{aligned}
 11) \quad 15 &= 19(1-x) \\
 15 &= 19-19x \\
 19x &= 19-15 \\
 19x &= 4 \\
 x &= \frac{4}{19}
 \end{aligned}$$

$$\begin{aligned}
 12) \quad 2(x+3) &= 3(x-3) \\
 2x+6 &= 3x-9 \\
 6-3 &= 3x-2x \\
 3 &= x
 \end{aligned}$$

$$\begin{aligned}
 13) \quad 4(x-4) &= 3(x+7) \\
 4x-16 &= 3x+21 \\
 4x-3x &= 21+16 \\
 x &= 37
 \end{aligned}$$

$$\begin{aligned}
 15) \quad 4(2x-7) &= 2(3x-1) \\
 8x-28 &= 6x-2 \\
 8x-6x &= -2+28 \\
 2x &= 26 \\
 x &= \frac{26}{2} \\
 x &= 13
 \end{aligned}$$

$$\begin{aligned}
 17) \quad 5(3-5x) &= 2(4x-3) \\
 15-25x &= 8x-6 \\
 15+6 &= 8x+25x \\
 21 &= 33x \\
 \frac{21}{33} &= x
 \end{aligned}$$

$$\begin{aligned}
 19) \quad 8+4(2x-3) &= 16 \\
 8+8x-12 &= 16 \\
 8x-4 &= 16 \\
 8x &= 16+4 \\
 8x &= 20 \\
 x &= \frac{20}{8} \\
 x &= \frac{5}{2} \\
 x &= 2\frac{1}{2}
 \end{aligned}$$

$$\begin{aligned}
 14) \quad 5(x+8) &= 9(x-1) \\
 5x+40 &= 9x-9 \\
 40+9 &= 9x-5x \\
 49 &= 4x \\
 \frac{49}{4} &= x \\
 12\frac{1}{4} &= x
 \end{aligned}$$

$$\begin{aligned}
 16) \quad 8(3x+2) &= 5(6x-5) \\
 24x+16 &= 30x-25 \\
 16+25 &= 30x-24x \\
 41 &= 6x \\
 \frac{41}{6} &= x \\
 6\frac{5}{6} &= x
 \end{aligned}$$

$$\begin{aligned}
 18) \quad 2+3(x+4) &= 10 \\
 2+3x+12 &= 10 \\
 14+3x &= 10 \\
 3x &= 10-14 \\
 3x &= -4 \\
 x &= -\frac{4}{3} \\
 x &= -1\frac{1}{3}
 \end{aligned}$$

$$\begin{aligned}
 20) \quad 9-2(3x+9) &= -30 \\
 9-6x-18 &= -30 \\
 -6x-9 &= -30 \\
 30-9 &= 6x \\
 21 &= 6x \\
 \frac{21}{6} &= x \\
 \frac{7}{2} &= x \\
 3\frac{1}{2} &= x
 \end{aligned}$$

$$21) \quad 28 = 4 + 5(3x - 2) \qquad 22) \quad 6 = 18 - 2(3x - 5)$$

$$28 = 4 + 15x - 10$$

$$28 = 15x - 6$$

$$28 + 6 = 15x$$

$$34 = 15x$$

$$\frac{34}{15} = x$$

$$2\frac{4}{15} = x$$

$$6 = 18 - 6x + 10$$

$$6 = 28 - 6x$$

$$6x = 28 - 6$$

$$6x = 22$$

$$x = \frac{22}{6}$$

$$x = \frac{11}{3}$$

$$23) \quad 17 = 15 + 2(3 - 2x)$$

$$17 = 15 + 6 - 4x$$

$$17 = 21 - 4x$$

$$4x = 21 - 17$$

$$4x = 4$$

$$x = \frac{4}{4}$$

$$x = 1$$

$$24) \quad 3 + 2(x + 5) = 7 + 3(x + 1)$$

$$3 + 2x + 10 = 7 + 3x + 3$$

$$13 + 2x = 13 + 3x$$

$$13 - 13 = 3x - 2x$$

$$0 = x$$

$$25) \quad 7 - 3(4x + 3) = 2 + 3(2x - 1)$$

$$7 - 12x - 9 = 2 + 6x - 3$$

$$-12x - 2 = 6x - 1$$

$$-2 + 1 = 6x + 12x$$

$$-1 = 18x$$

$$\frac{-1}{18} = x$$

$$26) \quad -5 - 4(6 - 3x) = 6 - 3(4 + 1)$$

$$-5 - 24 + 12x = 6 - 12 - 3$$

$$-29 + 12x = -6 - 21$$

$$12x + 21x = -6 + 29$$

$$33x = 23$$

$$x = \frac{23}{33}$$

$$27) \quad 8x + 2(3x - 1) = 9x - 3(x - 3)$$

$$8x + 6x - 2 = 9x - 3x + 9$$

$$14x - 2 = 6x + 9$$

$$14x - 6x = 9 + 2$$

$$8x = 11$$

$$x = \frac{11}{8}$$

$$x = 1\frac{3}{8}$$

$$28) \quad 5x - 3 + 4(3x + 7) = 0$$

$$5x - 3 + 12x + 28 = 0$$

$$17x + 25 = 0$$

$$17x = -25$$

$$x = \frac{-25}{17}$$

$$x = -1\frac{8}{17}$$

$$29) \quad 3 + 6(9-2x) - 7x = 2(x-1)$$

$$3 + 54 - 12x - 7x = 2x - 2$$

$$57 - 19x = 2x - 2$$

$$57 + 2 = 2x + 19x$$

$$59 = 21x$$

$$\frac{59}{21} = x$$

$$2\frac{17}{21} = x$$

$$30) \quad 5(2x+7) - 3(4-x) = 2 + 3(1-x)$$

$$10x + 35 - 12 + 3x = 2 + 3 - 3x$$

$$13x + 23 = 5 - 3x$$

$$13x + 3x = 5 - 23$$

$$16x = -18$$

$$x = -\frac{18}{16}$$

$$x = -\frac{9}{8}$$

$$x = -1\frac{1}{8}$$