

## Equations Worksheets

### Solving equations with brackets

1) Solve these equations by multiplying out the brackets first :-

(a)  $2(x + 3) = 12$

(b)  $3(x + 5) = 27$

(c)  $4(x - 5) = 32$

(d)  $7(x + 1) = 56$

(e)  $10(x - 2) = 50$

(f)  $2(x - 1) = 11$

(g)  $5(x - 9) = 0$

(h)  $8(x - 6) = 8$

(i)  $3(x + 4) = -6$ .

2) Solve these equations :-

(a)  $2(2x + 1) = 18$

(b)  $3(4x - 8) = 36$

(c)  $6(5x - 1) = 24$

(d)  $2(3x + 4) = 20$

(e)  $4(2x - 3) = 4x + 12$

(f)  $2(1 + 5x) = 3x + 51$

(g)  $6(3x - 5) = 13x$

(h)  $11(2x - 3) = 15x + 2$

(i)  $10(x + 13) = -3x$ .

3) Solve :-

(a)  $2(x + 4) - x - 6 = 11$

(c)  $5(x - 1) + 4x = 13$

(e)  $3(x - 2) + 2(x + 4) = 17$

(g)  $2(3x + 1) + 3(x - 4) = 4x + 5$

(i)  $4(x + 5) - 2(x + 1) = 30$

4) Solve :-

(a)  $2(x + 4) - x - 6 = 11$

(c)  $5(x - 1) + 4x = 13$

(e)  $3(x - 2) + 2(x + 4) = 17$

(g)  $2(3x + 1) + 3(x - 4) = 4x + 5$

(i)  $4(x + 5) - 2(x + 1) = 30$

### Solving Equations with Fractions #1

Solve each of these equations, by first multiplying every term by the l.c.m. of all the fractional denominators.

This will eliminate the fractions.

(a)  $\frac{1}{2}x - 1 = 4$

(b)  $\frac{1}{4}x + 5 = 6$

(c)  $\frac{1}{8}x - 2 = 0$

(d)  $\frac{2}{3}x - 4 = 6$

(e)  $3 + \frac{3}{5}x = 9$

(f)  $\frac{3}{8}x + 10 = 19$

(g)  $\frac{3}{4}x - \frac{1}{2} = 1$

(h)  $\frac{1}{2}x + \frac{1}{5} = 4$

(i)  $\frac{2}{5}x - \frac{1}{3} = 3$

(j)  $\frac{1}{2}x - 4 = \frac{1}{4}$

(k)  $\frac{2}{3}x + 3 = \frac{1}{3}$

(l)  $\frac{3}{4}x - 1 = \frac{1}{5}$

(m)  $\frac{1}{2}x + 2 = \frac{1}{3}x + 5$

(n)  $\frac{3}{4}x - 4 = \frac{3}{5}x + 2$

(o)  $1 + \frac{3}{8}x = \frac{1}{3}x + 2$

(p)  $\frac{1}{2}x + \frac{1}{3} = \frac{1}{4}$

(q)  $\frac{1}{4}x + \frac{1}{2} = \frac{2}{5}$

(r)  $\frac{1}{2}x - \frac{1}{3} = \frac{2}{5}x + \frac{1}{4}$ .

## Equations Worksheets

### Solving Equations with Fractions #2

Multiply each term by the l.c.m. of the denominators to eliminate the fractions and solve :-

(a)  $\frac{x+2}{5} = 4$

(b)  $\frac{x+7}{4} = 5$

(c)  $\frac{x-9}{2} = 3$

(d)  $\frac{x+4}{3} - 1 = 2$

(e)  $\frac{3x-4}{5} + 2 = 9$

(f)  $5 + \frac{x-2}{4} = 0$

(g)  $\frac{2}{3}(2x+4) - 2 = 0$

(h)  $\frac{3}{4}(3x-1) - 1 = 2$

(i)  $\frac{5}{8}(x+3) - \frac{1}{2}x = 2$

(j)  $\frac{2}{5}(2x+3) - \frac{1}{3}x = 4$

(k)  $\frac{5}{6}(2x+1) = \frac{3}{4}x + 7$

(l)  $8 + \frac{3}{10}(3x+2) = \frac{1}{3}x + 1$

(m)  $\frac{2}{3}(2x+5) + \frac{1}{2}(x-2) = 5$

(n)  $\frac{x}{2} + \frac{x+2}{4} = 5$

(o)  $\frac{x+2}{3} + \frac{x+3}{4} = 1$

(p)  $\frac{2x-1}{5} + \frac{x+2}{10} = 3$

(q)  $\frac{x-1}{2} - \frac{x-2}{5} = 1$

(r)  $\frac{3x-5}{6} - \frac{x-7}{3} = 4.$

### Solving Inequalities and Inequations

Solve the inequalities:

1) (a)  $x + 2 > 4$

(b)  $y + 6 < 5$

(c)  $p + 5 > 9$

(d)  $t - 2 < 0$

(e)  $5b < -5$

(f)  $7n \leq 49$

(g)  $10k \geq -40$

(h)  $2u \leq -11.$

2) (a)  $2x + 1 > 5$

(b)  $3a - 4 < 8$

(c)  $5b - 2 < 23$

(d)  $7c + 7 > 0$

(e)  $4d + 5 < 21$

(f)  $8e + 2 > 10$

(g)  $6g + 3 \leq 0$

(h)  $9h + 9 \geq 9$

(i)  $4k - 2 \leq 0$

(j)  $10y - 20 \geq -50$

(k)  $6p + 7 \leq -23$

(l)  $\frac{1}{2}r + 6 < -1$

3) (a)  $-x > 4$

(b)  $-a < 2$

(c)  $-b < -6$

(d)  $-2c > -11$

(e)  $-3d < 18$

(f)  $1 - g > 2$

(g)  $9 - h \geq 4$

(h)  $12 - n \leq -1.$

4) (a)  $3x + 3 > x + 9$

(b)  $5x + 8 < 3x + 18$

(c)  $7x - 3 > 3x + 29$

(d)  $7x + 1 \geq 13 - x$

(e)  $13 - 2x \leq 3x - 7$

(f)  $24 - 3x \geq x + 12$

(g)  $x - 1 \leq 9x - 57$

(h)  $15 - 7x \geq 12 - x.$

5) (a)  $2(x + 3) + 3 > 17$

(b)  $2(p + 5) - 1 > 3$

(c)  $5(2y - 1) + 7 \leq 3$

(d)  $8 - 2(r - 2) \geq 20$

(e)  $9 - (1 - k) < 4$

(f)  $1 - 3(m - 5) \geq -2$

(g)  $3(1 - 2x) \leq 27$

(h)  $2(5x - 1) > 0$

(i)  $-\frac{1}{2}(4x - 5) \leq -2$