

## Equations/Formulae Revision

1) Solve for  $x$

a)  $3x - 1 = 10$

b)  $3x - 1 = 7 - 2x$

c)  $\frac{2x}{7} = 5$

d)  $\frac{x}{3} - 8 = 1$

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

f)  $7 - \frac{2x}{3} = 5$

g)  $\frac{6}{x} = 5$

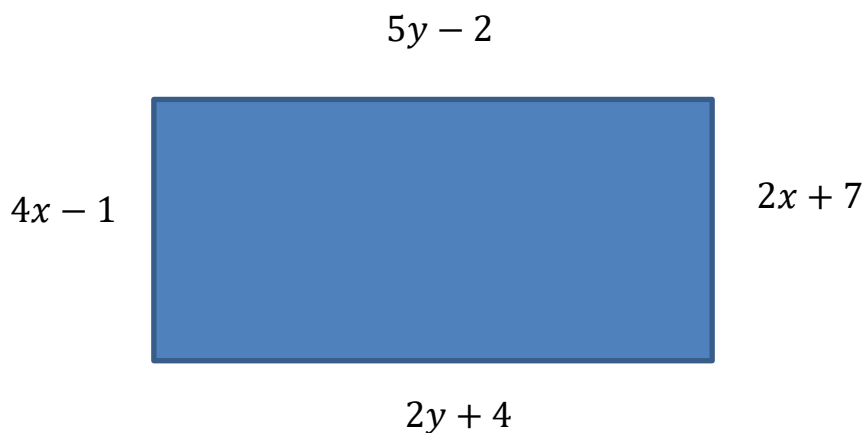
h)  $\frac{5}{x-1} = 3$

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

2) Flora is 5 years older than Jake and I am twice as old as Flora. The total of our ages is 63. Form an equation to find my age.

3) Three consecutive numbers add to make 108, form an equation to find these numbers

4) By forming and solving 2 equations, find the perimeter of this rectangle.

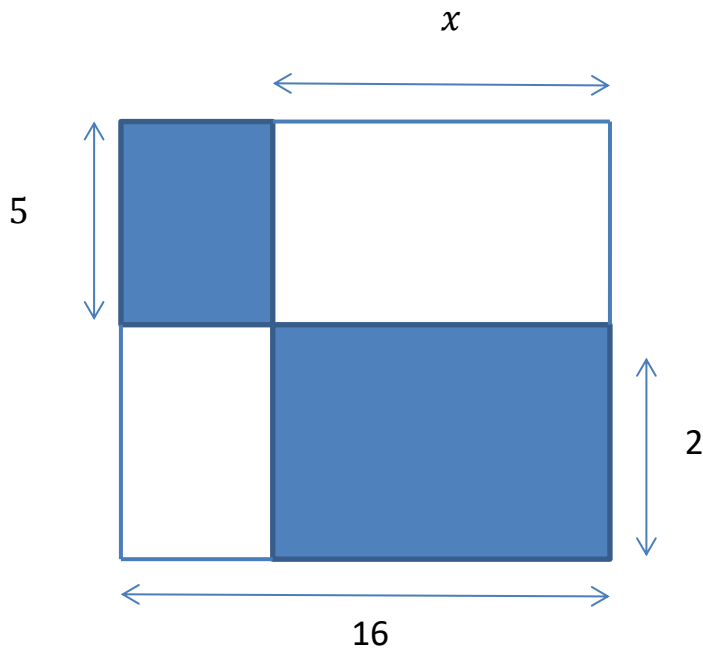


5) A bus contains an unknown number of people, after the first stop it had 3 times as many people on board, at the second stop 12 people got off and at the third stop half these people got off and then 3 more got on.

If there are now 12 people on board, form an equation to find out how many people were on the bus originally.

6) I am thinking of a number. When I double it and add 11, I get the same result as halving it and adding 29. Form an equation to find my number.

7) The shaded areas given below are equal. Find  $x$



8) Make  $x$  the subject of the following

a)  $mx - t = p$

b)  $t - 3x = m$

c)  $\frac{3x-r}{m} = T + 1$

d)  $\frac{5}{x+t} = m$

e)  $\frac{x}{t} + m = y$

f)  $\sqrt{x-1} + m = t$

g)  $ax^2 - r = t$

h)  $ax - t = mx + r$

i)  $\frac{a+x}{x-3} = t$

j)  $\sqrt{\frac{ax-t}{m-x}} = y$

9) Solve the following inequalities and represent the answers on a number line:

a)  $7x - 3 > 5$

b)  $3 - 2x \geq 8$

c)  $-2x > 8$

1a)  $11/3$  b)  $8/5$  c)  $35/2$  d)  $27$  e)  $8$  f)  $3$  g)  $6/5$  h)  $8/3$  i)  $8/13$  2)  $34$

3)  $35, 36, 37$  4)  $46$  5)  $10$  6)  $12$  7)  $\frac{80}{7}$  8a)  $\frac{t+p}{m}$  b)  $\frac{t-m}{3}$  c)  $\frac{mT+m+r}{3}$  d)  $\frac{5-mt}{m}$

e)  $t(y-m)$  f)  $(t-m)^2 + 1$  g)  $\pm \sqrt{\frac{t+r}{a}}$  h)  $\frac{r+t}{a-m}$  i)  $\frac{a+3t}{t-1}$  j)  $\frac{my^2+t}{y^2+a}$

9a)  $x > \frac{8}{7}$  b)  $x \leq -\frac{5}{2}$  c)  $x < -4$