

Maths

Solving equations with brackets

Miss Parnham



Solving equations with brackets

1. Solve the equations.

a) $6(p - 5) = 24$ b) $\frac{q + 3}{4} = 4$

c) $\frac{2r - 1}{5} = 3$ d) $27 = 3(5 + 2s)$

2. Annie has x sweets, she eats 5 of them then divides the rest between 3 of her friends. They each get 4 sweets. How many did Annie start with?



3. Solve the equations.

a) $-5(e + 3) = 20$ b) $\frac{f - 5}{7} = -2$

c) $-15 = 3(g - 1)$ d) $-2 = \frac{h + 5}{8}$

4. Here are two ways to solve the same equation. Which method is the most efficient and why?

$$\begin{aligned} 3(x - 8) &= -30 \\ 3x - 24 &= -30 \\ 3x &= -6 \\ x &= -2 \end{aligned}$$

$$\begin{aligned} 3(x - 8) &= -30 \\ x - 8 &= -10 \\ x &= -2 \end{aligned}$$



Solving equations with brackets

5. Solve the equations.

a) $5(w + 1) = 12$ b) $3.2 = \frac{x - 0.9}{4}$

c) $\frac{5y - 3}{0.5} = -8$ d) $\frac{z + 2.5}{6} = -5\frac{1}{3}$

6. Use this function machine to write and solve an equation to find m .



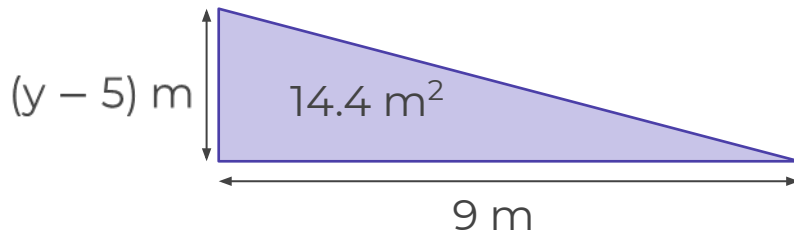
7. Jack has saved £ x .

Mo has saved £2.20 less than Jack.

Rosie has saved £8.00 which is 5 times as much as Mo.

Form and solve an equation to find how much Jack has saved.

8. Form and solve an equation for y .



Answers



Solving equations with brackets

1. Solve the equations.

a) $6(p - 5) = 24$ b) $\frac{q + 3}{4} = 4$
 $p = 9$ $q = 13$

c) $\frac{2r - 1}{5} = 3$ d) $27 = 3(5 + 2s)$
 $r = 8$ $s = 2$

2. Annie has x sweets, she eats 5 of them then divides the rest between 3 of her friends. They each get 4 sweets. How many did Annie start with?



$$\frac{x - 5}{3} = 4$$

$$x = 17$$

3. Solve the equations.

a) $-5(e + 3) = 20$ b) $\frac{f - 5}{7} = -2$ $e = -7$ $f = -9$

c) $-15 = 3(g - 1)$ d) $-2 = \frac{h + 5}{8}$ $g = -4$ $h = -21$

4. Here are two ways to solve the same equation. Which method is the most efficient and why?

$$\begin{aligned} 3(x - 8) &= -30 \\ 3x - 24 &= -30 \\ 3x &= -6 \\ x &= -2 \end{aligned}$$

$$\begin{aligned} 3(x - 8) &= -30 \\ x - 8 &= -10 \\ x &= -2 \end{aligned}$$

2nd method, fewer steps



Solving equations with brackets

5. Solve the equations.

a) $5(w + 1) = 12$ b) $3.2 = \frac{x - 0.9}{4}$

$w = 1.4$

$x = 13.7$

c) $\frac{5y - 3}{0.5} = -8$ d) $\frac{z + 2.5}{6} = -5\frac{1}{3}$

$y = -0.2$

$z = -34.5$

6. Use this function machine to write and solve an equation to find m.



$4(m+3) = 10$

$m = -0.5$

7. Jack has saved £x.

Mo has saved £2.20 less than Jack.

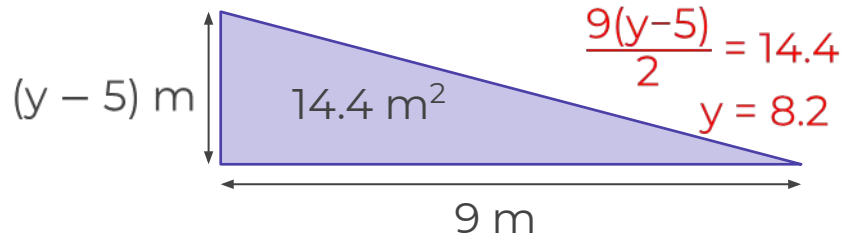
Rosie has saved £8.00 which is 5

times as much as Mo. $5(x - 2.2) = 8$

Form and solve an equation to find

how much Jack has saved. $x = 3.8$
 $\text{£}3.80$

8. Form and solve an equation for y.



$\frac{9(y-5)}{2} = 14.4$

$y = 8.2$

