

# 8:01 | Equivalent Equations

Name: \_\_\_\_\_

Class: \_\_\_\_\_

## Examples



- The basic aim is to separate the pronumerals from the numbers.
- The basic rule is to 'do the opposite'.

Solve.

1  $a + 14 = 27$   
 $(-14) \quad (-14)$   
 $\therefore a = 13$

2  $8b = 96$   
 $(\div 8) \quad (\div 8)$   
 $\therefore b = 12$

3  $4c - 13 = 11$   
 $(+13) \quad (+13)$   
 $4c = 24$   
 $(\div 4) \quad (\div 4)$   
 $\therefore c = 6$

4  $5m + 23 = 8$   
 $(-23) \quad (-23)$   
 $5m = -15$   
 $(\div 5) \quad (\div 5)$   
 $\therefore m = -3$

## Exercise

1 Solve.

a  $m + 15 = 32$

b  $n - 12 = 27$

c  $3m = 72$

d  $f \div 6 = 4$

e  $x - 8 = 12$

f  $10y = 90$

g  $k + 17 = 3$

h  $c + 5 = 20$

i  $q - 10 = 10$

j  $7t = 56$

k  $6p = 90$

l  $x + 19 = -10$

m  $\frac{a}{4} = 4$

n  $y - 9 = -3$

o  $\frac{x}{5} = 15$

p  $\frac{z}{13} = -2$

2 Solve.

a  $2a + 3 = 9$

b  $4x - 1 = 3$

c  $7n - 6 = 8$

d  $5y - 4 = 26$

e  $3c + 9 = -3$

f  $6m + 15 = 27$

g  $10k - 4 = 56$

h  $9h + 22 = 31$

i  $2t + 13 = 5$

j  $3x + 17 = 5$

k  $12n - 19 = 5$

l  $6y + 17 = -73$

m  $8q - 7 = -55$

n  $13x + 11 = -2$

o  $4a + 31 = 53$

p  $5u + 8 = -32$

## Fun Spot 8:01 | What has a hundred legs but can't walk?



Solve each equation.

Match the letters with the answers below.

A  $x + 7 = 20$

F  $\frac{x}{3} = 5$

I  $4x = 28$

N  $x - 7 = 5$

O  $5x - 3 = 12$

P  $2x + 8 = 20$

R  $7x - 15 = 13$

S  $x + 5 = 4$

T  $3x + 7 = 31$

Y  $9x = 9$

15	7	15	8	1

6	13	7	4	20

3	15

6	13	12	8	20

### 8:01 Equivalent Equations

1 a	$m = 17$	b	$n = 39$	c	$m = 24$	d	$f = 24$	e	$x = 20$	f	$y = 9$
g	$k = -14$	h	$c = 100$	i	$q = 20$	j	$t = 8$	k	$p = 15$	l	$x = -29$
m	$a = 16$	n	$y = 6$	o	$x = 75$	p	$z = -26$				
2 a	$a = 3$	b	$x = 1$	c	$n = 2$	d	$y = 6$	e	$c = -4$	f	$m = 2$
g	$k = 6$	h	$h = 1$	i	$t = -4$	j	$x = -4$	k	$n = 2$	l	$y = -15$
m	$q = -6$	n	$x = -1$	o	$a = 5.5$	p	$u = -8$				