

Algebra

Question 1

Here are two function machines. Can you fill in the missing boxes and complete the formula using i for Input and o for Output?

a

Input		Output
<input type="text"/>	$\times 4$	16
2		<input type="text"/>
<input type="text"/>		52
1		<input type="text"/>
<input type="text"/>		40
Formula:		

b

Input		Output
3	<input type="text"/>	21
25		43
7		25
18		36
27		45
Formula:		



Question 2

Work out the value of these expressions.

a $a + 1$ for $a = 9$

b $b - 3$ for $b = 12$

c $c \times 6$ for $c = 4$

d $\frac{d - 3}{2}$ for $d = 17$

e $e + 11$ for $e = 23$

f $5 \times f$ for $f = 7$

g $g + 15$ for $g = 3$

h $h \times 4$ for $h = 16$



Question 3

Work out the value of the following expressions.

a $n \times 3 = 12$ $n =$

b $5 = m - 2$ $m =$

c $q - 6 = 9$ $q =$

d $y \div 5 = 9$ $y =$

e $t + 16 = 18$ $t =$

f $14 + g = 29$ $g =$

g $p = 3 + 1$ $p =$

h $21 = s \times 7$ $s =$



Algebra

Question 4

Neil and Gayle were going to the cinema.

They have booked standard seats but want to upgrade to reclining seats. The cost to upgrade is £1.61

The standard seat costs s and the reclining seat (r) costs £11.10

a Complete the equation that describes this.

$$r = \text{£} \boxed{} = s + \text{£} \boxed{}$$

b How much does the standard seat cost?

$$s = \text{£} \boxed{}$$

Question 5

You are preparing porridge for p people. Each bag of oats for the porridge serves 5 people. You need 4 extra bags to be on the safe side.

Choose the expression below for the number of bags of oats you need to buy.

$$\boxed{} \frac{p}{5} + 4 \quad \boxed{} 5p - 4$$

$$\boxed{} \frac{p}{5} - 4 \quad \boxed{} 5p + 4$$



Question 6

Fill in the gaps in the table below:

	$x = 4$	$x = 7$	$x = 32$	$x = 21$
$3x + 4$				
$\frac{2x}{2}$				
$x - 3$				
$88 - 2x$				
$1 + 6x$				



Question 7

Hamza was having a water party for his birthday.

For the party he needed the following:

- 1 squirter per child
- 6 balloons per child
- 2 towels per child with 5 spare

Write down the formula for squirters (s), balloons (b) and towels (t).
Use c for the number of children.

$s = \square$

$b = \square$

$t = \square$

There are 15 children at the party.

How many of each item will Hamza need ?

squirters

balloons

towels

