

Homework Year 7
Equations Part 1

Q1

Substitute $x = 5$ and then evaluate each of the following.

- | | | |
|---------------------|--------------------------|--------------------|
| a $x + 3$ | b $x \times 2$ | c $14 - x$ |
| d $2x + 4$ | e $3x + 2$ | f $13 - 2x$ |
| g $2(x + 2)$ | h $20 \div x + 3$ | i $4x - 2$ |

j When $y = 3$, state the value of:

- | | | |
|-----------------------------|------------------------|-------------------------------|
| a $5y + 2 - y$ | b $3 + 4y + 2y$ | c $y \times 7 + 5 - y$ |
| d $y \times (1 + y)$ | e $y + 2y + 3y$ | f $(10 - y) \times y$ |

Q2

Copy and complete this table.

	$6x + 5$	$4x + 5 + 2x$
$x = 1$		
$x = 2$		
$x = 3$		
$x = 4$		

Q3

Write an equation for each of the following, using the letter n to represent the unknown number.

- a** A number is doubled and the result is 240.
- b** A number is increased by 2 and the result is 240.
- c** Half of a number is 240.
- d** The number 240 is two less than a number.
- e** The sum of double a number and triple the number is 240.
- f** A number is multiplied by 3 and the result is increased by 2 to give 240.
- g** A number is increased by 2 and the result is multiplied by 3 to give 240.
- h** An even number and the following even number are added to give 240.
- i** The sum of three consecutive whole numbers is 240.
- j** A number is tripled and then halved to give 240.
- k** Half of one-third of a number is 240.
- l** The sum of two more than a number and half of the number is 240.
- m** The sum of half of a number and one-third of a number is 240.
- n** The difference between a number and half of the number is 240.
- o** Half of a number is 240 more than one-third of the number.
- p** The square of a number is 240.
- q** The sum of a number and the square of a number is 240.

If n is a number, then half of the number is $\frac{n}{2}$.

Q4.

Find the value of the number in each of these examples.

a A number is doubled and the result is 22.

b 3 less than a number is 9.

c Half of a number is 8.

d 7 more than a number is 40.

Q5.

Solve each equation for x .

a $x + 3 = 5$

b $x - 4 = 7$

c $3x = 23$

d $\frac{x}{4} = 7$

e $x + 7 = 13$

f $x - 6 = 11$
