

## Substituting into Formulae Work Sheet - ANSWERS

1. **Substitute** the given values of  $x$  into the **formulae** to find values for  $y$ :

- a)  $y = x + 4$ , when  $x = 3$
- b)  $y = 3x$ , when  $x = 1$
- c)  $y = 50 - 4x$ , when  $x = 5$
- d)  $y = 10x - 10$ , when  $x = 6$
- e)  $y = 3(x + 1)$ , when  $x = 4$
- f)  $y = 2(20 - x)$ , when  $x = 10$
- g)  $y = 6(x + 2) - 8$ , when  $x = 2$
- h)  $y = x^2$ , when  $x = 7$
- i)  $y = \frac{6x}{5}$ , when  $x = 10$
- j)  $y = \frac{x+4}{2}$ , when  $x = 8$

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| a) 7  | ANSWERS |
| b) 3  |         |
| c) 30 |         |
| d) 50 |         |
| e) 15 |         |
| f) 20 |         |
| g) 16 |         |
| h) 49 |         |
| i) 12 |         |
| j) 6  |         |

2. **Find** the value of  $x$ , when  $a = 3$  and  $b = 6$

- a)  $x = 2a$
- b)  $x = \frac{b}{3}$
- c)  $x = ab$
- d)  $x = a^2$
- e)  $x = b^2 + 4$
- f)  $x = \frac{a+2}{5}$
- g)  $x = 2b + 4a$
- h)  $x = b - a$
- i)  $x = \frac{b}{a}$
- j)  $x = \frac{4a+b}{2}$

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| a) 6  | ANSWERS |
| b) 2  |         |
| c) 18 |         |
| d) 9  |         |
| e) 40 |         |
| f) 1  |         |
| g) 24 |         |
| h) 3  |         |
| i) 2  |         |
| j) 9  |         |

3. The speed of a car can be worked out using the **formula**:

$S = \frac{D}{T}$ , where S means speed in kilometres per hour, D means distance in kilometres and T means time in hours.

Find the **speed** of the car when:

- a) D=12 and T=3
- b) D=70 and T=2
- c) D=20 and T=0.5
- d) D=80 and T=2.5

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| 3a) 4 kmph | ANSWERS |
| b) 35 kmph |         |
| c) 40 kmph |         |
| d) 32 kmph |         |

4. A **pattern** has the following formula :  $T = 3n + 1$ , where n is the term number and T is the term. **Copy** and **complete** the following table for the pattern:

n	1	2	3	4	5
T	4	7	10	13	16

5. The cost of staying in a hotel is given by the formula  $C = 50d + 20$ , where C is the cost in £ and d is the number of days a person stays. Find the cost of staying for:

- a) 3 days
- b) 6 days
- c) 2 weeks

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| 5a) £170 | ANSWERS |
| b) £320  |         |
| c) £720  |         |