

Master Maths 8 Worksheet 29

Substitution and Transposition

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Name: _____

1. For the equation below find the values for y for the given values of x .

$$y = 2x + 5$$

- (a) $x = 3$ (b) $x = 11$ (c) $x = 50$

$$y =$$

$$y =$$

$$y =$$

2. Find the value of y in the following equations if $x = 4$.

- (a) $y = 3x^2$ (b) $y = 5x - 7$ (c) $y = \frac{3x + 12}{8}$

$$y =$$

$$y =$$

$$y =$$

3. Solve the following equations for the values given.

- (a) $P = 3V^2 + \frac{Q}{4}$ ($V = 5, Q = 28$)

$$P =$$

- (b) $s = at + \frac{1}{2}at^2$ ($a = 6, t = 2$)

$$s =$$

- (c) $F = \frac{mv^2}{R}$ ($m = 10, v = 3, R = 5$)

$$F =$$

- (d) $G = \frac{3(M - 2N)}{2P}$ ($M = 40, N = 12, P = 4$)

$$G =$$

- (e) $U = mgh + \frac{5m^2}{4}$ ($m = 8, g = 10, h = 3$)

$$U =$$

4. Transpose the following equations to make the term in the brackets the subject.

- (a) $y = x + 6$ (x) (b) $m = n - p$ (n)

$$x =$$

$$n =$$

- (c) $M = 5N$ (N) (d) $A = \frac{B}{F}$ (B)

$$N =$$

$$B =$$

- (e) $G = 3H - K$ (H) (f) $y = \frac{x}{6} + C$ (x)

$$H =$$

$$x =$$

- (g) $b = ac - 2d$ (c) (h) $P = \frac{Q + R}{3T}$ (Q)

$$c =$$

$$Q =$$

5. Power (P) is equal to the product of the current (I) squared and resistance (R).

- (a) Write this as an equation.

$$P =$$

- (b) Transpose this equation to make I the subject.

$$I =$$