



# EXAM PAPERS PRACTICE

GCSE Edexcel Math  
1MA1  
Substitution

Question Paper

*"We will help you to  
achieve A Star "*



**Question 1**



You can work out the amount of medicine,  $c$  ml, to give to a child by using the formula

$$c = \frac{ma}{150}$$

$m$  is the age of the child, in months.

$a$  is an adult dose, in ml.

A child is 30 months old.

An adult's dose is 40 ml.

Work out the amount of medicine you can give to the child.

[2 marks]



**Question 2**

The body mass index,  $B$ , for a person of mass  $m$  kg and height  $h$  metres is given by the formula

$$B = \frac{m}{h^2}$$

Usman has a mass of 50 kg.

He has a height of 1.57 m.

- (a) Work out Usman's body mass index.  
Give your answer correct to one decimal place.

[2 marks]

**Question 3**

$$v = w^2 - 2w.$$

Work out the value of  $v$  when  $w = 6$

[2 marks]

**Question 4**

$$H = g^3 + 6g$$

Work out the value of  $H$  when  $g = 2$

[2 marks]



**Question 5**

$$f = 3g + 7h$$

Work out the value of  $f$  when  $g = -5$  and  $h = 2$

[2 marks]

**Question 6**

Tom's height is 1.80 m.

He wants his body mass index to be 21

(b) Work out the mass that will give Tom a body mass index of 21

[2 marks]

**Question 7**

$$W = \frac{5.6a}{b^2}$$

$$a = 1.28 \quad b = 0.8$$

Work out the value of  $W$ .

[2 marks]



**Question 8**

$$A = 4bc$$

$$A = 100$$

$$b = 2$$

Work out the value of  $c$ .

[2 marks]

**Question 9**

$$x = 0.7$$

Work out the value of  $\frac{(x + 1)^2}{2x}$

Write down all the figures on your calculator display.

[2 marks]

**Question 10**

$$h = 3t^2$$

(b) Work out the value of  $t$  when  $h = 108$

[2 marks]



**Question 11**

$$h = 5t^2 + 2$$

(i) Work out the value of  $h$  when  $t = -2$

(ii) Work out a value of  $t$  when  $h = 47$

[3 marks]

**Question 12**

You can change temperatures from °F to °C by using the formula

$$C = \frac{5(F - 32)}{9}$$

$F$  is the temperature in °F.

$C$  is the temperature in °C.

The minimum temperature in an elderly person's home should be 20°C.

Mrs Smith is an elderly person.

The temperature in Mrs Smith's home is 77°F.

Decide whether or not the temperature in Mrs Smith's home is lower than the minimum temperature should be.

[3 marks]



**Question 13**

$$h = 3t^2$$

- (a) Work out the value of  $h$  when  $t = 5$

[2 marks]

**Question 14**

- (c) Make  $a$  the subject of the formula

$$v = u + at$$

[2 marks]

**Question 15**

$$y = p - 2qx^2$$

$$p = -10$$

$$q = 3$$

$$x = -5$$

Work out the value of  $y$ .

[2 marks]